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9 December 1980

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2069

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TOURIST TRADE: OVER FIVE MILLION VISITED COUNTRY IN 1979

Sofia OTGOVOR NA AKTUALNI VUPROSI in Bulgarian No 8, 1980 pp 3-8

[Interview with Georgy Eftimov, chairman of the State Tourist Committee, by Dora Kamenova: "Answers to Urgent Questions"]

[Text] Question: Comrade Eftimov, the statistical data from the past several years show that the interest in visiting Bulgaria is growing not only in specific countries but all over the world. Why, do you think, are foreigners interested in our country?

Answer: The reasons and the factors of the growing interest in Bulgaria are determined most of all by the consistent peace policy of the Bulgarian Government, the stable and calm environment, which exists in our country, the existing democratic regime for entry and stay, and a number of conveniences for foreign guests, the increased tourist offerings and the improved tourist structure. As a result of the constant concern of the government and the communist party, international tourism in the country is developing not only as an effective branch of the national economy, but, as a means of communication, in establishing closer relations among people from various nations, it has turned into a real passport of peace. Bulgaria is popular in the world as one of the very few countries, which for years has maintained a visa-free policy for the tourists. The customs formalities are reduced to a minimum, and 50 percent premium on exchanged convertible currency is paid to tourist groups. As a result of the improved quality of the tourist conveniences, of the modernization and reconstruction of numerous resort complexes, the opening of new luxury hotels and restaurants, the expansion and diversification of sports and the expansion of additional services that are being offered, the foreign tourists' interest in Bulgaria has grown considerably during the last 2 years.

Following the basic direction for effective development of international and domestic tourism, outlined in many party and government documents, we accomplished new qualitative changes in the tourist services. We offer our guests not only first class hotels, restaurants and cafeterias, but also various services for the useful spending of their leisure time: sports, cultural programs, excursions in the country and abroad, hunting, fishing, meetings and visits of professional interest, additional services. Bulgaria offers all kinds of recreation along the Black Sea coast and in the mountains, including spas, congresses, guided tours and specialized activities. As a result of all that a new successful step was made in the development of the branch. In the last year Bulgaria was visited by over 5 million tourists and during the first half of this year--by 1,497,000; 187,000 more than during the same period last year, 1979.

Question: Increasing the effectiveness of all activities is the main line in the development of the national economy branches. What is being done in the State Tourist Committee to increase the effectiveness?

Answer: The basic lines for increasing the effectiveness and furthering the intensive development of international tourism were outlined in Decision No 481 of the Politburo of the BCP Central Committee of 30 December 1978 and in Decree No 2 of the Council of Ministers of 11 January 1979. These documents clearly and precisely determined the tasks of the tourist trade at the present period; raising the level of tourist offerings on the basis of improving the quality and increasing the quantity of the additional tourist services; raising the middle category by improving the qualification and the responsibility of the personnel in the tourist system; diversification and expansion of the tourist offerings through improvement of the tourist structure by expanding mountain resorts, medical facilities, guided tours, travel and specialized activities; by increasing the public labor productivity in the sphere of tourism through the perfection of the socialist organization of labor and tourist activities.

These responsible tasks are solved by the labor teams, mainly through maximal utilization of the material base, by extending the length of the season and its year-round usage, through perfecting its infrastructure, diversification of the tourist itineraries, according to the season, climate, and region. Our bureaus for complex tourist services offer quality additional and basic services, trips, currency exchange, trade and various goods. In this way we will achieve a shift in 1985 from 40 percent to 60 percent in favor of the revenues from additional services.

These are the ways that will lead us to the achievement of the main goal--maximum currency income for the country, and the realization of maximal effect for the national economy.

Question: You mentioned as one of the factors for increasing the effectiveness the improvement of the tourist offerings. What is most characteristic in this respect?

Answer: Most of all we aim to diversify our itineraries, services, and undertakings. Exceptionally favorable for the development of tourism year-round are our remarkable climate and natural resources, our first-class facilities in the Black Sea and mountain resort complexes, in land and in the spas. That is why, as we already mentioned, we offer various itineraries, for trips, vacation programs at the sea and in the mountains, combined mountain and sea vacations or travel on sea and land, treatment in modern spas at the Grand Hotel Varna in the resort Druzhba, Hotel Internatsional at Golden Sands, Hotel Kaliakra, Hotel Pomorie, in Khisara, Kyustendil, Devin, Sandanski, Vurshets, etc.

Our new programs are characterized by the fact that we not only provide food and accommodation for our guests but we do everything possible to help them utilize their free time with sports, entertainment, visits to historical places and cultural attractions in our country and the nearby countries, visits to industrial plants and agricultural complexes, meetings with outstanding public figures in arts and science, participation in congresses, festivals and sports competitions, hunting and fishing.

Here we should note that we adhere to a reasonable price policy while at the same time we offer a number of privileges to our foreign tourists: favorable prices, advantageous discounts for families with children, food coupons, comfortable private apartments, some with full board, convenient and clean sand beaches, and clean environment.

During the current and the following year our programs for vacationing and traveling are emphasized by three remarkable events: the forthcoming Twelth Congress of the Bulgarian Communist Party, the 1300th anniversary of the creation of the Bulgarian State, and the 100th anniversary of the birth of Georgi Dimitrov. While traveling in our country, the tourists will have the opportunity to familiarize themselves not only with our history and culture, but also to see the achievements of the new socialist Bulgaria, to experience the priority of the socialist regime.

Question: Our readers will be interested to find out what you have to offer to the Bulgarian tourists?

Answer: In the decision of the Politburo of the BCP Central Committee and in the Decree of the Council of Ministers of the Bulgarian People's Republic the tasks of the State Tourist Committee are determined as a department which has to develop international and domestic tourism, and has to be equally concerned with the tourist services to the foreign and domestic tourists. This is our present and future business policy. We aim towards the maximal utilization of our tourist base. Our offerings to the Bulgarian tourists are being developed with special concern. In 1979 the bureaus of "Balkantourist" assisted more than 1.5 million Bulgarian citizens, by providing them with different tourist services. For this and the next year the task is to expand and diversify the possibility for traveling in the country and abroad, at mountain and sea resorts. But there are periods in the year when the state interests dictate that tourist facilities must be used primarily for the needs of international tourism in order to provide the planned foreign currency income. At the same time during recent years we have been making special efforts for the rational utilization of all possibilities to accommodate and serve our citizens even at the peak of the season. We have a good organization and we try to give information on time about the vacancies in the hotels, about the possibilities for taking excursions in the country and abroad. The pressure is greatest in the months of July and August, so in this period we provide favorable possibilities for vacationing in other regions of the country, where we have excellent hotels and restaurants; for example, the small mountainous towns of Karlovo, Sopot, Kalofer, Kotel, Devin, etc. In the sea resorts we offer vacations out of season with considerable price reduction for lodging and food with full board.

For foreign as well as for Bulgarian tourists we have special itineraries devoted to the coming outstanding events and jubilees. There are still trips to the panorama "Plevenska Epopeya," and visits to places and monuments connected with the 1300th anniversary of the Bulgarian State: Shumen, Pliska, Preslav, Madarskiya Konnik.

There is a variety of itineraries for trips abroad. The programs offer the tourists the opportunity to familiarize themselves with the most interesting attractions in the countries visited. Every trip has a timetable which makes it possible for the client to choose the desired time and means of transportation. In addition to the announced groups for 1980, "Balkantourist" can organize additional groups as desired by the public.

In 1980 201,000 Bulgarian citizens will travel abroad in organized tours. Besides the tours in one country there are also tours to two as well as combined trips to Czechoslovakia, Austria, Hungary and Yugoslavia by boat.

Through "Balkantourist" individual excursions to socialist countries could be organized. During the stay abroad basic services could be provided (food and lodging) as well as additional services: issuing of passports and other documents, transfer of funds, guides, etc., according to the needs of the client.

The 16-day out-of-season vacation in Yalta and Sochi is becoming more and more popular.

Important for "Balkantourist" are the excursions to the USSR, especially the ones connected with the 22nd Olympic Games. Bulgaria was the first tourist country in the world with which the VAO Intourist signed a contract for excursions of Bulgarian citizens in connection with "Olympics 80." "Balkantourist" has 27 Olympic tours, in which more than 10,000 Bulgarians are participating.

Question: What do you think is the effect of the present international environment on the development of tourism?

Answer: It is well known that an atmosphere of tension and mistrust has been created in the world; the stagnation grew as a result of the hectic campaign of the U.S. Government against the socialist countries and the boycott attempts of the "Olympic Games 80," which, as is already known, suffered a complete failure. This is being confirmed by the excellent organization of the games and the new world and Olympic records. The exemplary organization of the Olympic Games was made possible by the famous hospitality of the Soviet people. The attempt to boycott the olympic games had a negative effect on some of the "Balkantourist" clients. It should be noted that this year there is a favorable development of international tourism on a world scale. The reasons are the increased prices of oil and as a result the raising of the previously announced airplane fares, our political stability, the economic crisis of capitalism on a world scale, and on the whole the feeling that it is better to wait.

For Bulgarian international tourism the results from the first half of the year are good. Despite the antisocialist propaganda, people of good will prefer Bulgaria as a country with a good climate of hospitality and friendliness, a calm and secure environment. Very few people have been influenced by the "Cold War" propaganda, and anti-Sovietism and so far we do not have disturbing cancellations and the subscriptions are going well.

Question: What are the prospects for the development of tourism in our country during the Eighth Five-Year period?

Answer: We have already talked about the main directions for the development of tourism and about the main task assigned by the party and the government--effective and intensive development of international tourism, in order to make it one of the main suppliers of foreign currency revenue in the country, as well as in increasing its role in propagandizing the privileges of the socialist regime.

The perspectives for the following 5 years are positive. The socialist market will grow at an even pace--10-12 percent average annual growth. The tourist market will be characterized by an increase in interest towards complex tourist services in a combination with active sports, entertainment and cultural activities.

9684
CSO: 2200

NEW POLYVINYL CHLORIDE PLANT COMMISSIONED

Sofia RABOTNICHESKO DELO in Bulgarian 4 Sep 80 p 4

[Article by RABOTNICHESKO DELO correspondent: "A New Giant in Domestic Chemistry"]

> [Text] The construction and commissioning of a new plant for chlorovinyl chloride and polyvinyl chloride is an important stage in the development of the Stopanskiya Chemical Combine in the city of devnga and the chemical industry in our country.

On the occasion of its opening, RABOTNICHESKO DELO's correspondent in Varna asked Eng Stefan Stanev, plant director, to discuss its significance in the development of our national economy.

"One of the plant's primary products is a polyvinyl chloride suspension which is produced in eight brands. This diversity makes it possible to fully satisfy all the potential requirements of our processing industry. This vast new production--120,000 tons annually--will fully satisfy the country's needs. An entire range of products such as pipe, shaped parts, building supplies, floor tile, the cable industry, items of household chemistry and others is already assured along with raw material and the prospect for a wide choice of qualities.

"Another product is electrolytic caustic soda. The news with this product is that it is being produced in a concentration of 49-51 percent, far higher than the electrolytic soda available to date. This will open new marketing possibilities.

"The importance and the role of this new plant is not in satisfying the nation's needs alone but also in the export of a large percentage of its production. At the same time, the strategic role of the plant's economic indicators are a characteristic manifestation. For example, in comparison with the existing plant for chloro- and polyvinyl chloride, it has 20 percent fewer personnel but achieves three times more in total production with triple the productivity of labor. The product structure of the plant consists of three basic items: chlorine and caustic soda, vinyl chloride and polyvinyl chloride.

"The traditional and long-standing association that we have had with Soviet organizations, our experience and the active aid of Soviet specialists have provided an exemplary start. Pantaley Myagkov, leader of the group of Soviet specialists, Georgi Mutafov, shop chief, Kiril Tsonev, chief of the Technical Production Department, the technologists and personnel of the chlorine industry have managed within a short time to organize a program for the development and assumption of capabilities which has been successfully implemented.

"All the potential requisites that can and should be a part of any modern plant are combined in the new plant for chlorovinyl chloride and polyvinyl chloride. For instance, a computer is used in the production of polyvinyl chloride. This means that during the polymerization process, manual control is impossible throughout the entire installation; it becomes possible only in case of an emergency when a given cycle is ended manually. This results in a very high level of optimizing the production process along with a very high coefficient of equipment efficiency. A high degree of intellectualization in the production process is a logical consequence of this. A number of high requirements in regard to educational qualifications as well as professional training are also levied on production and auxiliary personnel.

"The use of an effective raw-materials base to produce vinyl chloride has moved Bulgaria's chemists not only in terms of the complexity of this product but with the prospects for revolutionizing this field of chemistry as well. The traditional acetylene and hydrogen chloride are replaced in the new production process by ethylene and chlorine from the petrochemical combine in Burgas. A number of intensive processes to include the cracking of dichloroethane, distillation of vinyl chloride, direct chlorination and oxychlorination have been implemented in this installation. The production process if filled with a number of metered and automoated cycles. There is also a computer here although it is informational in the technological sense. The installation will also be a touchstone in the creative maturity of our technological specialists. As a result of complicated relationships, it is impossible for outside firms to carry out their obligations in commissioning an installation without oxychlorination. Our specialists--chemists, mechanics and others have worked under the guidance of Deputy Director Georgi Slavov, candidate in technical sciences and have used a plan which makes it possible to initiate production of vinyl chloride without oxychlorination. This effort began early in 1980 without the participation of foreign specialists. With a sense of special pride and satisfaction we note the implementation of vinyl chloride production as an independent achievement of Bulgarian specialists.

"Thus far, I have discussed one successful result that would have been impossible if the efforts of all the interested organizations had not combined the many parts of the system into one in order to make the good outcome a possibility. Design and building organizations have put all their knowledge and experience to use. The demands on them have not been the usual nor like those in other projects. The combination of becoming familiar with complex processes and the rich diversity of new and heretofore unknown materials, especially non-metallic materials, have put the contracting organizations to a serious test. Initial shake-down operations in the production of polyvinyl chloride, vinyl chloride and chlorine have been completed. The names of Rumen Dyakov, Pano Panov, Ivan Ivanov, Petko Prodanov, Stanko Ivanov and others deserve respect not only for the fulfillment of their goals but also for the achievement of great efficiency from the high proficiency acquired by their personnel in the process of fulfilling their assignments.

"A workshop has been established in which the production of 14,000 meters of fiber glass pipe was organized under the leadership of Petur Vlaykov, Iliya Georgiev and Milan Milanov. This new stage in fiberglass pipelines solved not only the problem of corrosion in rubberized steel pipelines but also provides a great deal of experience with these materials while the greater diversity that now exists in the production of vinyl chloride allows for a functionally more flexible operational intervention at all important stages with this material. This is a new stage in the opening and organization of the plant and we feel that it is a qualitatively new concept that will contribute a great deal to successful achievement of the final results.

Inspired by the resolutions of the plenum of the Central Committee of the Bulgarian Communist Party adopted at the 12th Party congress, our collective will invest all its skill and talent in honor of the high party forum.

9003
CSO: 2200

CZECHOSLOVAKIA

LER INTERVIEWED ON IMPLEMENTATION OF SET OF MEASURES

Bratislava SMENA in Slovak 7 Oct 80 pp 1, 4

[Interview with Leopold Ler, CSSR minister of finance by Jaroslav Hejkal: "Be a Player, Not a Spectator"]

> [Text] With the approach of the Seventh Five-Year Plan each day also brings us closer to the implementation of the Set of Measures for Improving the Planned Management System of the National Economy After 1980. It is, therefore, natural that our enterprises and plants are giving more and more attention to this important document. Its principles will affect each of us in one way or another.

[Question] The economics show a continual development not only in our country but in the world as well. Comrade Minister, in what setting are we going to implement the Set of Measures? Do you believe that its principles will be valid until the end of this century?

[Answer] It is clear that the 1980's will be characterized by many features different from the 1960's and 1970's. The end of this century finds Czechoslovakia as an industrial country in a very contradictory situation. When I speak of "contradictory" I do not have in mind a critical, depressive or pessimistic situation but one that will call for the "shifting of gears" in our planning, management and performance, with the result that many things will be basically changed. For this reason we also emphasize that the Set of Measures is not an everlasting dogma or some kind of catechism, but a living document. It will have to be gradually updated and revised according to our internal problems and the development of the world situation. We expect that the world conditions will have quite an impact on us in the 1980's and 1990's.

[Question] What is the essence of such an impact? Many may object that our cooperation with the Soviet Union and other CEMA member countries has been so developed that a crisis development in the capitalistic countries essentially cannot touch us.

[Answer] A great advantage and a plus for our economy will naturally continue to be the fact that it will be linked even more strongly to the economies of the CEMA member states, and the Soviet Union in particular. This is the basis of assurance, of perspective. This is our chance. We have already done much in this respect, but we must do even more and with greater vigor. One of the aspects is the indisputable fact that we are getting the majority of our raw materials from the Soviet Union at a lower cost--in the Seventh Five-Year Plan tens of percent lower than paying for these materials in the West, for example--than if we were to buy them from the capitalistic countries. But we cannot count on being able to import continuously an ever greater volume from the Soviet Union. On the contrary, we must assume that the prices of raw material, energy, metals and products from the agrofood complex in the world will continue to rise, even within the framework of the CEMA countries, and that this development will place ever greater demands on our manufacturing industry, engineering in particular. Industry will have to better utilize raw materials, energy and materials, and accelerate innovations of its products and their modernization in order to raise their quality and penetrate the world markets. As it stands now, the world prices which we pay for our imports are rising about twice as fast as our export prices. From the viewpoint of the generation of national income this means that we must use about one-third of the increase to cover this difference. It is a simple equation: the more we increase the export prices and reduce this difference, the more we shall be able to keep for ourselves.

[Question] And what is stopping us?

[Answer] Raising export prices presupposes deliveries of outstanding products having high technical parameters, a short period of innovation cycle and perfect service. To achieve this we must make some radical changes in the management system itself. But not topsy-turvy, proclaiming that everything in our present system is bad, while everything new will be good and self-redeeming--kind of a myth. We must sort out what we have done well and what poorly, and provide for continuous integration in the management system of new mechanisms fitting the new conditions. Therefore, we regard everything which we have been experimenting with since 1978 and which we are introducing next year merely as the first step in the whole series of fundamental measures that are still ahead of us. Today we cannot even fully appraise their importance, scope, depth and intensity. What we have come up with so far, what we have arrived at in the Set of Measures, is by no means all that should be operative in the future. Our work in this area is not the work of a narrow group of people isolated from life in the plants and the socialist problems of development. It is aimed at maximum mobilization of every individual working in the sphere of management--be it in the party, in the unions, in youth organizations or in an economic function--to think and to search. In short, we want to see every level of management confronting future conditions as well as possible, so that we may find a mechanism which, through its strong economic pressure, would force us to operate as required by our common interest.

[Question] What do we expect from the Set of Measures? Could you illustrate it for us through some examples?

[Answer] Let us take capital investment, for instance. It is still marked by a chronic illness manifested by the long period of the returns on investment, high costs per output unit, considerable unfinished construction, the discrepancy between new capacities and the work force, and the like. We prescribed many remedies for this illness in the form of many resolutions. However, they have proven rather fruitless. This then raises the question of how to proceed, of what prescription to select to carry it out. The concept of khozraschet pervades the entire Set of Measures. This means that each individual, collective, plant and enterprise must earn its livelihood. Thus one of the principles valid for this area will be that the enterprises must finance the so-called fixed-asset investments up to Kcs2 million from the development fund. They must cover this fund to a minimum of 30 percent from their profits, another 40 percent from depreciations and the rest from their other resources for good export performance, for quality of products and the like. We are thus also creating here a broad sphere of economic necessity of earnings for the economic growth of their own enterprise. We know that everything will not run smoothly in the next year. After all, we were accustomed for years to "draw" investments. But this is an extensive management. We are through with it and we are switching to the intensive investment policy. Another such sore spot is the scientific-technological development. Its relationship to production is still very weak, it is mostly a mere supplement to the plan. Many technological improvements and inventions are shelved, the innovation cycles are very long and the ratio of products meeting the world standards is low. One of the reasons for this situation is the fact that the current management system put little pressure on the enterprises to apply modern advances in science and technology, and even prevented them from doing so in some cases. For example, the linking of wages to gross production or the production of goods has been such a barrier. A director who introduced a technological advance, for example, in the form of a product having half its former weight, on the one hand utilized raw materials better, but on the other hand reduced the gross production and the source of wages, and thus ultimately acted against his work collective. Furthermore, the plan of technological development lacked authority. After each unfulfilled task of technological development, the plan was instead modified, and the fulfillment of this reduced plan was then even rewarded. The Set of Measures demands that scientific-technological development form the basis of production in the five-year plan; in short, that even in the Seventh Five-Year Plan the director not pride himself by what percent he raised the production, but rather by how much his plant increased the ratio of products having world standards, that he did not have third-class products and that he marketed his products better abroad and at home. True, this presupposes a necessary change in the attitude toward science and technology within the plant; the plan for scientific-technological development must not be one of the many components of the plan of the enterprise or the production economic unit, but the true axis of planning. It is not a question of technological development forcing its way into the plants, but of acting as an inert force, as the heart of the plant. People must simply realize that when they do not favor technological development they act against their factory.

[Question] People also expect changes in remuneration, or better phrased, that the reward for their work will reflect more justly their true merits than at present. Comrade Minister, would you care to comment?

[Answer] The present system based on annual planning from the viewpoint of planned apportionments allows, to a considerable degree, an increase in wages prior to the increase in work productivity. We must simply pay more and more wages per unit of productivity. We can document it specifically: we started the 1970's with the ratio of 0.5 percent wages to 1 percent rise in productivity. The Sixth Five-Year Plan started with a ratio of 0.71 : 1, and last year the ratio was almost one whole percent of wages per 1 percent rise in productivity. When we realize that the difference is the source of funds for increased spending for health services and the social, educational and cultural policy, the question arises where to find the money if we do not wish to resort to a rise in prices. For this reason the Set of Measures stresses the necessity of the merit system of remuneration both for individuals and work collectives and for enterprises and production units. As regards the wage policy, it calls for a long-term policy and not a year-to-year one; in short, the enterprises and production units should indeed be able to manage their wages. We want to divide the wage fund into two components. We intend to correlate the basic wage, which should average 80 percent of the wage fund, with the indicators of the performance proper. And because this will eliminate the carryover of occurrences of manufacturing from costlier rather than cheaper material, and of achieving the turnover through a mutual cooperation, we may assume that this sensitive subject of merit will be solved in principle. Twenty percent of the wage fund--the second component--we wish to "hang" on the fulfillment of the five-year indicators of profitability of the production assets. That is, how does the enterprise or the production unit handle the capital invested in the fixed assets and stocks; how will this be reflected in the profits, expenditures and the life span of the assets. This 20 percent should be a great incentive for the managerial staff of the enterprise or the economic production unit to see to it that the invested capital realizes the planned effect. The structure even allows for the extreme case when nobody in the management of the enterprise receives a single crown in supplementary bonuses and premiums. I assume that such a situation should not arise with a good long-term solution. The worker in the machine shop will get about 2 percent, of course, for his quality and economical work; this represents his share in the economic achievements, as the wage of each worker is tied to the economic performance of the enterprise. But if the achievements deviate as much as 3 percent from the planned indicators, the director of the enterprise, his deputies and the chiefs of professional departments will have their special compensations reduced by 3 percent. And if the percentage is higher, they will be penalized more, and at 15 to 20 percent nonfulfillment they will receive no premiums whatever. As regards the wage funds we are thus switching to the principle that each enterprise must actually earn its wages. According to the five-year parameters this must lead to a greater differentiation. It is a very sensitive and touchy problem, but we must solve it.

[Question] In this connection it is appropriate to ask whether this will not cause a greater fluctuation, if people will not run away from the plant which is earning less to another where the earnings are higher....

[Answer] I shall merely point out that in the enterprise which will save manpower we are actually pledging the "Shchoski"(?) movement nationally for 5 years. This means that if the enterprise has a planned work force of 10,000 and does the work with 9,000, the wage fund will remain at the original level and the funds earmarked for the 1,000 missing workers can be divided among the others according to merit. The enterprise will not be interested, therefore, in hiring additional personnel. And what about those who are dissatisfied? It has been said that we must expect fluctuations, dissatisfaction, the writing of complaints about low earnings, and the like. Conflict situations will certainly arise, but we must not panic at the first sign. When one "troop" in the enterprise writes that it is earning less, we must not start "playing taps" for the improved management system. We must analyze the situation and deal with its substance.

[Question] The Set of Measures can be viewed as certain rules of a game, for example, soccer. They forbid some actions, for instance, an intentional play with the hand. The moment the player violates the rules, the referee intervenes and the whole team is penalized for the infraction of the player. And what about an enterprise where the director would allow some infringements on the rules of the game called the Set of Measures? Who will play the role of the referee here, and what will be the specific penalty?

[Answer] I am also fond of using sport comparisons because of the many similarities. Since my youth I have been a fan of SK Slezka, that is of Banik Ostrava. I am glad that he is our soccer champion and, therefore, I do not believe that two things should have happened: first, the CSSR champion should not play in Hlinske with the team from the regional competition and second, he should not be eliminated in the first or second round in the Champions' Cup of the European countries. Similarly, we shall always be subject to international criteria and it will not matter what game we play at home and what domestic record we achieve. Our internal rules, for example, the Set of Measures, aim at this goal so that we can acquit ourselves well in the European and world arenas. Let us take as an example a machinist who will be doing the same work for years. He will be meeting the performance norms and receive his wages for it. If the plant properly markets the machine and realizes profit, he will also receive his share from the economic achievements. But should the plant neglect technological development, should it lose its market and not sell the machine or sell it without profit, the worker will receive what he has earned by his work but no share in the economic performance. This means that the worker himself cannot limit his interest to his own performance only. He is after all also the owner of the production assets and a participant in the management. He will have to show progressive interest in what the prospects of the plant are, and in what it plans to market. The worker, the foreman, the director, everybody involved in the management must realize that he is a participant in the game, that his place is in the field and not behind the barrier. Should the technical deputy or the chief of the construction department be responsible for stagnation of the plant, he must bear his responsibility by not receiving the 20 to 40 percent bonus at the end of the year, or he may even have to be replaced, because the work collectives also suffer on his account. The latter in their own interest will become referees with a strong voice. Other referees are the higher agency, the state bank, people's control and the like.

[Question] The Set of Measures is talked about as if it were something in the future, a thing to come. But the implementation counter planning for the next year is a reality today. Do the people in the enterprises and plants proceed with annual carryovers of the directional tasks for the next year differently than when it was known that higher production requirements stipulated higher requirements for labor force, investment and the like?

[Answer] First, I must point out that the Set of Measures is not conceived for 1 year, but for a much longer period. Therefore, all the mechanisms naturally cannot function without an increase next year. We have already introduced some, however, such as the counter planning, for instance. If you set for yourself a more demanding task than called for in the directive, you shall get more, while if you take a less demanding one, you get less. I must admit that the application of this principle has not yet taken hold. Let us take, for example, the growth of productivity; we have cases where the enterprises want to have a wage increase by 1.25 percent per 1 percent rise in productivity. Furthermore, it appears that at some places apprehensions about many material disproportions are stronger than the motivating aspect of the incentive system, for example. Some directors are saying: We choose a firmer role and then we shall lack material to work with. There is some caution and mistrust. They are saying in the plants: "Oh, if we tighten the plan for 1981, it will become the basis for the whole five-year plan and we shall use our reserves at the very beginning." At first sight the outlook of the counter planning is not too rosy, and it indeed does have its complexities. The enterprises, after all, were drafting the plan proposal in the period from May to July, when they had to submit them. And at that time many were not yet familiar, as we found out, with the principles of the Set of Measures. The counter planning for the first year of the Seventh Five-Year Plan, therefore, reveals a reluctance to accept progressive plans and tasks. The Set of Measures is explicit, however: those who choose a "soft" plan and then exceed it, will be at a disadvantage compared to those who adopt a "hard" plan and then meet it, or even slightly underfulfill it.

[Question] There is still much to be desired in the supplier-consumer relations. In case of a bad product the producer blames the subsupplier, he in turn blames other suppliers and the guilty get lost in anonymity. Will the Set of Measures contribute to the solution of this nuisance?

[Answer] My personal opinion is that inferior material should not pass the acceptance control in the factory and should not be processed. That is, the standards of the acceptance control should be much higher than at present. I believe that this will gradually happen in the enterprises and plants, because we shall not abolish the penalty for inferior work. On the contrary, we shall broaden it. [illegible] present procedure is to deduct the sum of losses due to inferior work from the basis for wage calculations or profits. We thus have a weapon. In my opinion management must be the key to the solution of this problem. And this is what the Set of Measures tries to accomplish with its principles.

[Question] Many ills in our economy evidently arise from the fact that the managerial positions are not always filled with qualified people. There is often no place for a properly trained young person because the top position is held by an older individual opposing progressive work methods. Do you believe that the Set of Measures will also help to give a much better chance for full participation to young, competent and qualified individuals?

[Answer] The Set of Measures is unquestionably opening room for all competent, qualified and bold people devoted to socialism and interested in the progress in production and in society. One cannot give a prescription, however, as to how to decide whether a 60-year-old designer is young; for instance, or if a 30-year-old worker is old enough for such a position. This is highly individual and it calls for sensitive work with people. I expect that through the medium of the Set of Measures life will simply force us to upgrade progressively the cadre work and fill the key positions with the truly best qualified individuals. I believe that young, qualified, competent and bold people will have great opportunities.

> Will the Set of Measures for Improving the Planned Management System of the National Economy solve all the mentioned problems and shortcomings? Not by itself. It is only a tool, a lever which the people must firmly grasp in their hands.

9562
CSO: 2400

EARLY INDOCTRINATION OF WORKERS INTO SET OF MEASURES STRESSED

Prague NOVINY VNITRNIHO OBCHODU in Czech 8 Oct 80 p 3

[Article based on roundtable discussion, prepared for publication by editor E. Semilska: "Implementation of the Set of Measures: The Responsibility of Every Worker"]

> [Text] "Fundamentally, we are dealing here with an instrument for higher quality and more efficient work. In our sector its consequences must be an overall increase in the effectiveness of the socioeconomic function of commerce in accordance with the requirements of the socioeconomic development of society. Concretely, however, it is a matter of the new measures assisting to a greater extent the development of personal market consumption, especially its qualitative aspects, and having the measures stimulate, to a greater degree than previously, the efficiency of commercial performance in relation to the whole production process. The achievement of these fundamental objectives of the Set of Measures in the commercial sector means the utilization not only of all its generally valid principles, but at the same time the elaboration and practical application of several additional measures, approved by the government committee for questions of the planned management of the CSSR specifically for the domestic commercial sector. In addition to the full utilization of such principles as intensification of prospective planning, expansion of the role of five-year plans and the efficiency of the compensation system, more efficient utilization of khozraschot, improvement in management organization, etc., it will also be necessary to apply special measures stemming from the basis of the socioeconomic function of commerce, from the character of work in commerce, and from its material technical basis." Engr A. Jakubik, CSR Minister of Trade.

The Set of Measures for Improving the Planned Management System of the National Economy is a document the content and objectives of which should be well known by all of our workers. It is not simple to change the deeply rooted system of management, and such change requires the accumulation of much experience and the practical verification of a number of new elements before they can be introduced on a nationwide basis. For this reason many experiences of the Soviet Union and other socialist countries were studied in the course of the Sixth Five-Year Plan, and the practical verification of several principles was begun. The Experiment in the Comprehensive Management of Efficiency and Quality, which ran from 1978 to 1980, was especially important.

In the conception of the Set of Measures, account was also taken of external economic conditions. Our country has a relatively poor raw materials base, and our industry has a strictly processing character. For the Czechoslovak economy to be balanced, we must show ourselves capable of covering our high import needs of essential raw materials with the efficient exporting of our own products. This is not easy, because prices of standard finished products on world markets are rising more slowly than the prices of raw materials. From this stems the necessity of exporting many more goods than ever before in order to cover imports. This implies, to be sure, exporting at the expense of supplying the domestic market, which would lead to a weakening of the possibilities for satisfying the needs of our citizens. What then can be the solution? Produce and export outstanding products, the prices of which on world markets are rising just as rapidly as the prices of raw materials. At the present time we produce few such products, and a change in this unfavorable situation presupposes great efforts from every working person in research, development, production, testing, and commerce. For this reason the Set of Measures encompasses not only the areas of management and planning, but also issues of scientific and technological development, the level of quality and efficiency, prices and wages, and thriftiness at individual management levels, and it emphasizes as well the undisputed significance of worker participation in management, and in the development of their initiative. However, the Set of Measures, no matter how comprehensive, can change nothing in and of itself--this can be accomplished only by people through good work, an understanding of the rationale of the changes, through new approaches and attitudes befitting members of a socialist society.

What Is Most Pressing For Us Today

The Set of Measures for Improving the Planned Management System of the National Economy After 1980 is currently the subject of a number of discussions at our workplaces. What is the point of departure of the Set of Measures? How can we participate? Is not the application of the Set of Measures to enterprise and factory conditions actually only a matter for a small circle of expert and management personnel? These are questions the workers are asking. We put their questions to experts at a discussion in which participated Ludmila Burianova, chairwoman of the MVOS [Urban Trade Union Committed], Jiri Zahalka, economic deputy of the general director of Food Commerce and vice chairman of the CVOS [Czech Trade Union Committee] economic commission, Engr Miroslav Moller, economic deputy of the director of Wholesale Industrial Products in Prague, member of the UVOS [Central Trade Union Committee] presidium and chairman of the Union Committee of the Revolutionary Trade Union Movement at OPZ, and Zdenek Marek, economic deputy of the director of the Prague Interhotel and member of the plenum and economic commission of MVOS [Urban Trade Union Committee].

Engr Jiri Zahalka: At the present time the most important task is to prepare a feasible plan for the next five-year plan in accordance with the Set of Measures. At the same time it is not possible to wait for more detailed regulations, which for the most part are issued only in the concluding periods of the year. It is already clear from the unambiguous sense of the Set of Measures for Improving the System of Planned Management that it is necessary to direct efforts at a search for ways in which the plan which has been put together can be qualitatively assured in all its aspects, and at the same time to search and, mainly, find, potential sources of efficiency in its fulfillment.

In our whole branch ever more importance is being placed, and will continue to be placed in the future, on the level of supplier-consumer relations, on the more efficient, closer cooperation of commerce and production, so that not only higher quality goods, but a wider assortment of goods as well, comes from them to us, to our sales outlets, and so that much greater attention will be devoted to the breadth of the product mix and innovations in it. This relates particularly significantly to foodstuffs, and therefore in our enterprise as well. In Food Commerce, we must devote increased attention to these issues in 1981. Planned increases in turnover are not that high, so we must, rather, try to fulfill them in terms of demanded goods, in the demanded mix, and with the highest possible quality.

Another problem which is definitely not easy to resolve is the fact that we must accomplish this increase in turnover with minimal investments and, for practical purposes, with no increase in the work force. At the same time the quality of service cannot be permitted to suffer. On top of this it is our committed political objective to guarantee the supply of foodstuffs in new housing projects. For instance, in Prague alone two such gigantic projects are under way: Southern and Southwestern Town. We must open and staff new supermarkets there. Here as well there are more than enough subjects for reflection, initiative, and creativity. It is often true that various, even though small, operational improvements, a rationalization of the commercial infrastructure, better organization of work, the elimination or merger of several steps, make possible the reassignment of workers, saving them for new facilities.

Of course, further large possibilities for initiative in finding unused potential exist in the area of costs related to the conservation of raw materials, inventories, energy, or the saving of various overhead costs.

It definitely makes sense to speak with people about the new system of planned management right now, immediately, and not to wait until all of the relevant legal standards and more detailed directives are issued. Nor is it possible to agree with the often repeated assertion that the new system is a matter solely for experts and management personnel. It is true that these are the people who will have to involve themselves the most extensively in the elaboration of new guidelines and their application. However, whole worker collectives will have to play a role in the introduction of the new principles into daily practice at the workplace. It is precisely these people with whom we must, today, discuss in detail the basis, purpose, and objective of the improved system.

Engr M. Moller: The improvement of the quality and efficiency of all kinds of work is a pressing requirement of the times. The Set of Measures for Improving the Planned Management of the National Economy After 1980 pursues, in its essence in my view, the winning over of every member of an enterprise collective for the concrete realization of a given objective. It is clear that progress towards the fulfillment of this demanding requirement is dependent on the efficient initiative of people. Nor does it avoid, however, modifications in economic instruments and several other regulations. It is impossible, however, to wait for these. It is desirable, and essential, to point to concrete examples of what it is necessary to resolve and how to go about it. No good idea may be allowed to pass, whether it be presented as a proposed improvement or only in the form of a contribution to the discussion at an operational conference. Each person who proposes an idea must be made aware of its fate. Failure to live up to this principle leads to the indifference of people, of our workers, and this is an unforgivable error. And although the proper answer will at times mean a little more work or trouble for an immediate superior or one higher up, or for a union functionary, let us pursue each initiative and its examination to the end.

The whole new system challenges all of us to learn to view our own work as well in a broader context and to consider whether some action, decision, or requirement of ours might damage the overall operational process, might result on another occasion in down time, losses, or even unnecessary effort.

It will often be necessary to implement a good idea in cooperation with a nonenterprise collective. I cite an example from transportation, where demands for conservation are especially pressing. Every high capacity factory has at its disposal a transportation fleet with a given capacity. The economic utilization of this fleet presupposes the balanced and full loading of vehicles. In order to eliminate undesirable seasonal fluctuations, overtime work, and the opposite periods of insufficient loading of vehicles, a sensible agreement concerning the appropriately timed dispatch of predelivered goods is at times sufficient. The problem of minimizing deliveries and delivery cycles of several sales outlets, which lowers transportation costs, also requires thought. From this viewpoint it is necessary to reevaluate several distribution plans, and not to forget about vehicle loading on return trips.

One of the painful problems, especially in the center of Prague, is labor productivity and efficiency in small stores. This is, as is, come to think of it, everything in commerce, at the same time also a society-wide problem; the creation of larger shopping aggregates extends, obviously, shopping trips, even the most mundane. The loss of time to the shopper represented by a trip to the larger sales outlets can be more than made up for by the shortened shopping time. This is especially true when an improvement in the organization of work accompanies a growth in the size of a sales outlet, and this must be the objective of employees of commercial organizations.

The shift from small stores to larger capacity ones with greater productivity is not only a matter of construction, but also of convincing shoppers, and for this it is necessary to depend on the understanding and assistance of national committees.

I would also like to mention a matter which can decisively and fundamentally influence for us this required increase in quality and efficiency. This is the wider, more specific, and more efficient use of computer technology. This has not yet provided us with nearly what it is capable of providing, especially in relation to making management more operative. This is true for all commercial sectors with the possible exception of those in foodstuffs, who are farthest along in this regard.

L. Burianova: Great possibilities are opening here for members of comprehensive rationalization brigades, for those who would improve operations. These are, let us not forget, people who not only have an interest in the field of their specialty, but have also delved into it. In many instances they are experts, and most of them are seasoned practitioners. Their thinking about problems can, therefore, contribute a truly fundamental resolution which would, however, require as well far greater popularization and examination right up to implementation itself. Here we see a problem which Engr Moller has already raised: that it is precisely from such proposed solutions that work and difficulties often result for supervisory and coworkers, as well as for union functionaries. The more so since more than once it has been a question of a very demanding resolution, one requiring relevant measures to be taken in technology, as well as in the organization of labor, management and in administrative activities.

Z. Marek: In our area, as elsewhere, momentarily the most important task is the preparation of a plan, not only for next year, but also for the whole Seventh Five-Year Plan, because it is from this that everything else evolves. Where we work, in the Prague Interhotel, this is the more urgent because the construction of the hotel Panorama in Prague 4 must be worked into the plan, and several matters related to this are still being negotiated. We are devoting extraordinary attention, as in past years to the maintenance and improvement of the material-technological base, where we are creating the conditions for plan fulfillment in future years. We are obtaining the resources above all from the proceeds of surcharges on the residence of foreigners.

We have, however, for a long time been grappling with the assurance of targets in comprehensive travel due to the fact that in this item we must also assign personal supply vehicles, even though they serve exclusively technological purposes--for the delivery of goods, raw materials, and inventories. The situation is becoming acute also because our suppliers force us to take away certain goods.

Regarding the plan proposal, several public eating enterprises managed by national committees are remarking that the influence of the Set of Measures has not yet been sufficiently outlined in the prepared document. Management personnel and union functionaries are having problems maintaining the level of services in view of the approaching lack and, for practical purposes, zero growth in the work force, the high costs of certain, especially smaller, operations, and an insufficiently modernized material technical base.

People understand these goals pursued by the Set of Measures. They are convinced of its usefulness and significance, but are asking for concrete information. And justifiably, since in the future every worker can influence economic results, even the dishwasher by not breaking the dishes, at the same time that they influence the extent to which an enterprise comes to terms with the new realities.

The new measures are so significant, and the workers are promising themselves so much from them that we must take steps to assure that they are respected from the top down. In this way situations can be avoided such as occurred last year in November when conservation ordinances appeared in the press, at the same time that commercial organizations had ordered and signed contracts for a number of propagational projects.

The fundamental task at the present time, in my opinion, is to establish a demanding, but feasible plan and to assure without exception the fulfillment of the final year of the five-year plan. Further, it is necessary to think about enterprise potentials, verify the existence of the necessary resources, clear up several questions of relations so that workers can be properly informed and have their questions answered at the educational sessions and seminars prepared for enterprises, unions, and other agencies.

L. Burianova: The Czech Trade Union Committee of commercial workers also took politico-organizational measures to assure the participation of union organizations and agencies in the elaboration and implementation of the Set of Measures. Its functionaries, activists, and workers are delegated to work groups of the CSR Ministry of Trade to assist commercial-economic units.

At the same time our regional and urban trade union committees have received concrete tasks both in relation to members of their own agencies and in relation to factory and enterprise committees of the Revolutionary Trade Union Movement. Their functionaries must see to it that by the end of October the basis of the Set of Measures has been explained to all workers at operational discussions. In connection with this, it is necessary to speak about the need for worker participation in the discovery of unused potential, about the significance of comprehensive rationalization measures and of the material stimulation of wages which provide the incentive for consistently high quality work. In the second phase of educational work, functionaries will be informed concerning the concrete tasks which stem from intraenterprise and intrafactory khozraschot.

In addition, there will be an ongoing evaluation, at discussions of enterprise and factory committees of the Revolutionary Trade Union Movement, of the effectiveness of measures and the degree of realization of those goals which stemmed from the discussions of the Seventh, Eighth, and Ninth Plenary Sessions of the Central Council of Trade Unions.

At the conclusion of this roundtable it is not necessary to add anything. Only perhaps that it has included only a small fraction of a broad area of problems, and therefore meetings such as this, our encounter with experts and union functionaries concerning the Set of Measures, will be more frequent. We thank the participants in today's roundtable, and wish them success in the implementation of the Set of Measures in their areas of specialization. We hope they are able to implement their excellent ideas in daily practice.

9276
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TRADE UNION CALLS FOR HIGHER WORK DISCIPLINE

Prague HOSPODARSKE NOVINY in Czech 10 Oct 80 p 2

[Commentary by Oldrich Navratil, Central Trade Union Council: "Trade Unions and Work Discipline"]

[Text] Under the conditions preparatory to the execution of the "Set of Measures for Improving the Planned Management System of the National Economy After 1980" we were more conscious than ever of the fact that characteristics of the tasks and position of trade unions in the present stage have an international application as expressed by L.I. Brezhnev at the 16th session of Soviet Trade Unions: "In our society production is not against the workers. The dual task of trade unions is to promote the development of the national economy and increase production and to take care of the rights of workers and their working and living conditions. It is a dual task because the growth and qualitative improvement of the economy are the primary and proper means of improving the working conditions of the workingman, of his family and of all citizens."

The Ninth Plenary Session of the Central Trade Union Council [URO] again underscored with all urgency the need for all trade union bodies and organizations to direct their members toward high quality and responsible work, toward creating an atmosphere of high standards--tolerating no compromise with shortcomings--and toward strengthening working and technological discipline.

In the current situation, when we are not meeting the goals of the last year of the Sixth Five-Year Plan and are preparing the start of the Seventh Five-Year Plan under very complicated external and internal conditions, it is more than ever necessary for every trade unionist to be a good manager at his workplace or in his plant. An integral component of this is the maintenance of socialist work discipline. If this principle applied at the beginning of the building of socialism, it is even more timely now with the new technology and know-how and the growing mutual dependency of branches and operations.

No trade union organization, plant or shop committee, no member of the ROH [Revolutionary Trade Union Movement] should remain indifferent to the fact that at his workplace, in his area of operations, there is a considerable volume of rejects which cause great losses in materials.

Awareness of the immense assets which we are able to produce in a short time period, and which we urgently need to meet our economic and social goals, forces us also to think about some of the indulgent practices whereby certain supervisors, often even on the recommendation of plant committees, give workers paid time off to take care of their personal business. This practice has increased by 7.15 percent since 1977 and represents an annual loss of 2,191,557 working days just among production workers in industry. The extent of so-called work breaks for personal reasons is prescribed by our legal regulations in a manner that has no analogy in the legislation of other countries. It is the absolute right and duty of trade union bodies to see to it that this free time is given workers wherever it is justified. Likewise, however, they must help stop the increased granting of free time beyond that which is properly justified so that various pointless activities, not to mention celebrations of personal anniversaries, often even accompanied by the use of alcoholic beverages, do not take place during working hours.

Trade union bodies and work teams also are not indifferent to the losses due to shortcomings in the organization and management of work, unnecessary work stoppages or breaks in the regular flow of the work process. Honest workers rightly criticize these and insist on due prosecution of those who fail in their working responsibilities through inadequate management or organizational work.

Work discipline is one of the main principles underlying the development of socialist society and is a basic requirement for meeting the goals of all branches of the national economy. Its intensification and development is, therefore, one of the concrete gauges of the effectiveness of all political-educational activity of every plant and shop committee and of every basic organization.

Our efforts are all the more complicated because, in order to strengthen work discipline, those factors which are most evident in a capitalist society do not apply here--such as fear of losing one's job. It is indisputable that other methods for strengthening work discipline can be used in the most developed countries when the number of unemployed in them alone is approximately 19 million. The number of unemployed and semiemployed in developing countries which have taken the capitalist route has not fallen under 350 million. In the United States alone, according to the International Labor Organization's official statistics, the figure is 8.2 million. Moreover, the prognosticators do not foresee a rosier future. It is expected that in the FRG alone the number of persons out of work will increase from the present three-quarters of a million in June 1980 to 6.6 million by the year 1990. Under such conditions it only suffices to open the door in order to correct any problems of discipline.

For us, however, that is unacceptable. Socialism has formed its own discipline--a worker's discipline founded on an enlightened attitude toward work. The trade unions as well as managing directors in cooperation with union officials, must educate workers to this. Morale boosters should, however, not be limited to honoring the best workers. Something more is required. An atmosphere must be created and public opinion must be shaped so that in every enterprise and on every work each will be well aware of who is working and how, and each will be esteemed according to his merits. Everyone must be certain that good work and good conduct will be recognized. And they must also know that the idler, the loafer, the frequent absentee and the careless worker will not be dealt with leniently. No one will defend him against the rebuffs and critical attitudes of his respectable comrades.

V.I. Lenin directly associated success in socialist construction with "iron discipline in work." He considered inadmissible any kind of violation of discipline, whether committed by supervisory workers or ordinary laborers.

Our socialist labor code gives supervisory personnel sufficient means to enable them to handle those who, in spite of all efforts at education, violate the rules of socialist work discipline. Supervisors are not only justified but obliged to make use of these means to the fullest extent allowed by law. It is fully within the purview of plant committees to support by all moral-political means the proper decisions of the supervisors in this area.

Labor turnover has a severe negative impact on the discipline of working teams. Of every 1,000 workers in the industry of the CSSR alone, 91 will leave their jobs annually. Since 1975 this developing trend has been rising, particularly because of reduced overall attention being paid to the solution of this problem. Losses caused by labor turnover in industry alone are estimated at 2 to 3 million unworked shifts annually.

The Ninth Plenary Session of the URO emphasized the fact that seeking means to stabilize the work force should also find expression in plans of social development and in collective agreements, especially in areas directed toward social and educational activities. This must be kept in mind especially at the present time when we are on the eve of preparing new collective agreements and plans for cadre and personnel development.

The task clearly, however, falls to economic management. It was clearly implicit in the Seventh Plenary Session of the URO that we will fully support those supervisors who carry out their duties responsibly, consistently and courageously. Consequently, together with them we will also take up the solution of so-called unpopular matters, being fully aware that only by successfully carrying out the tasks of development of the national economy can we assure fulfillment of programs of social policy and the further consolidation and development of the social and working security of every worker.

8491
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SITUATION, TASKS OF ENERGY MANAGEMENT EXAMINED

Budapest KOZGAZDASAGI SZEMLE in Hungarian No 10, Oct 80 pp 1159-1171

[Article by Miklos Szocs, chief counselor at the National Planning Office: "Situation and Tasks of Our Energy Management. Expected Trends in Energy Demand During the Fifth Five-Year Plan Period"]

[Text] The country has had balanced fuel and electrical energy supplies for decades. Our economy does not suffer from an energy shortage. Yet, the importance of energy management has increased enormously and satisfying long range demand is not a problem we can easily solve.

The external and internal conditions of our energy supplies have undergone substantial change since 1973. The three most important changes are:

- since 1974, energy import costs have increased faster than the price of our products sold abroad;

- the costs of domestic energy production (coal, crude oil, natural gas, electrical energy) are increasing faster than the cost of industrial production;

- the unit capital cost of energy-related investment projects has increased substantially as the engineering solutions of the energy system used in the past (e.g., oil-based power plants) are being replaced by large installations with 3 or 4 times greater unit capital cost (e.g., nuclear power plant) under construction at the present time.

Although the power represented by the cooperation among socialist countries in the energy field was able, for a while, to blunt or delay the effects of long term price increases, losses in international trade and the burden of energy investment costs, these changing conditions forced us to substantially modify our previous energy policy goals.

The oil price explosion and its aftereffects opened a new era all over the world. The process of adaptation began in our country, as elsewhere. Following the internationally known new energy policy strategy, we started work during the Fifth Five-Year Plan in the following areas:

- reducing oil imports within all imports;

- changing the energy structure;

- slowing the growth of demand.

In particular, we started a number of new coal mine investment projects, exploration of new oil and gas fields and construction of the nuclear power plant. At the same time, due to our unavoidable need to import, we also completed new development projects aimed at expanding imports (transportation of Orenburg natural gas and increasing imports of Soviet electrical energy at 750 kV).

The efforts aimed at the expansion of energy sources are mostly well-known. Less well-known are the experiences relating to present trends in the country's energy demand. The relationship between Hungarian economic growth and energy demand, in terms of the average annual growth rates of the five-year plan periods, can be characterized as follows:

Table 1
Average Annual Growth Rates (percent)

Category	1970-75	1975-80
National Income	6.3	4.0
Gross National Product	6.2	4.3
Fuel use	3.5	3.5
Electrical energy use	6.6	5.1

During the Fourth Five-Year Plan, every 1 percent increase in production was accompanied by a 0.56 percent increase in fuel demand and a 1.06 percent increase in electrical energy demand. National energy demand increased during the present plan period. According to preliminary data, every 1 percent rise in production is accompanied by a 0.81 percent growth in fuel demand and a 1.19 percent growth in electrical energy demand. The reasons are as follows:

- the branch and product structure of our industry developed in an energy-intensive direction;

- the spreading of hydrocarbons that can be burned more efficiently has slowed down since 1975;

- modernization of railroad transport slowed down; as a result, its favorable effects on transportation-related energy demand declined. The role of road transportation continued to expand.

- Agriculture is becoming increasingly energy intensive to save labor and increase yields.

- energy demand by the general population is growing as a result of the growth in the number of apartments and privately owned automobiles.

The development of the economy is continuing to be characterized by the trend toward growing unit energy demand per unit net national product in terms of electrical energy and declining unit energy demand per unit net national product in terms of fuel use.

Table 2
Unit Energy Demand per Unit Net National Product, 1970-1980

Year	Unit fuel demand (GJ/forint)	Electrical energy demand (kWh/forint)
1970	2.40	0.047
1975	2.11	0.048
1980	2.08	0.051

The following energy units of measurement are used:

1 PJ (petajoule) = 10^{15} joule
1 GJ (gigajoule) = 10^{9} joule
1 kJ (kilojoule) = 10^{3} joule
1 joule = 0.2388 cal
1 Watt hour = 3600 joule

The energy requirements of industrial production during the two five-year plan periods are illustrated by the following data:

Table 3
Average Annual Growth Rates During the Fourth and Fifth Five-Year Plan Periods (percent)

Category	1970-75	1975-80
Annual average growth of gross industrial production	6.5	4.6
Average annual growth of industrial fuel use	4.4	3.6
Average annual growth of industrial electrical energy demand	4.5	4.2

The indicators of the Fourth Five-Year Plan period were better than those of the 1975-80 period. Between 1970 and 1975, every 1 percent growth in industrial production required only a 0.68 percent increase in fuel use and a 0.69 percent increase in electrical energy use. In contrast, during the Fifth Five-Year Plan a 1 percent production increase required a 0.78 percent increase in fuel use and a 0.91 percent growth in electrical energy demand. This is a result of the more rapid growth of the production of more energy-intensive base materials (pig iron, hot-rolled steel, cement, caustic lime, bricks, plate glass, paper, sugar, etc) compared to total industrial production relative to the preceding period. Of particular importance is the doubling of base material use by the petrochemical industry since 1975.

Table 4
Total Industrial Fuel Use and Unit Energy Demand per Unit Industrial Production Calculated at Comparable Prices

Category	1970	1975	1980
Total Industrial Fuel Use (PJ)	515	636	762
Unit Industrial Fuel Use (KJ/forint)	971	879	842

The objective yardstick for evaluating the energy management activities and conservation measures of industrial enterprises (economic units) is their unit energy use (per unit quantity of production or output, expressed in natural units of measurement). There is a welcome, continuing decline in the unit energy demand of energy intensive sectors, industries and factories. This basic trend can be seen equally well in industry and transportation. The decline in unit energy demand represents substantial savings for the national economy. In the five years from 1975 to 1980, there has been a 5 to 10 percent unit improvement in aluminous earth production and the brewing industry. The improvement in paper, ammonia, cement and precast concrete production has been between 11 and 20 percent. The decline in demand per unit production has been over 20 percent in glass, sugar and caustic lime production.

Especially large unit improvements are achieved in economic units where new production methods (more up-to-date plant or larger installations) have come on-line. There are also improvements in efficiency in enterprises where production continued on the basis of existing capacities relying on earlier technology. In these areas, indicators improved as organizational measures led to improved maintenance, elimination of losses and increased efficiency.

Unit indicators rose in only a few of the many energy-intensive activities and products. These cases may be regarded as exceptions to the main trend with acceptible, concrete reasons related to technology or improved quality (e.g., in refineries due to increased crude oil processing or in some up-to-date brick factories due to the production of ceramic shells with better insulation properties). Agricultural energy demand also increased at a rapid rate during this period in line with improvements in agricultural equipment (mechanization, electrification, increasing use of chemicals).

Table 5
Indicators of Energy Intensiveness of Agriculture

Category	1970	1975	1980
Total agricultural fuel use (PJ)	42	59	80
Agricultural fue use per unit output (KJ/forint)	220	236	259

Thus, agricultural energy demand increased, both in absolute terms and relative to output, in the period from 1975 to 1980. Increased energy demand was mainly due to the spreading of modern production systems and the related technological, drying and transportation requirements.

In spite of its increasing energy intensiveness, agriculture still belongs in the category of so-called less energy intensive sectors. Its total fuel use is still only 5 to 6 percent of the total fuel requirements of the national economy. Compared to industry, agricultural energy demand per unit output is one-fourth to one-third, electricity demand is one-fifth to one-fourth of the industrial average. The problem is that expanding agricultural production and increased yields require growing use of the most expensive types of fuel (diesel oil, gasoline) as well as fertilizers and pesticides made from high grade energy sources (natural gas, gasoline).

Energy use per unit output in the transportation sector continued to improve in the Fifth Five-Year Plan period.

On the other hand, the most important energy rationalization activity, i.e., the modernization of rail transport (electrification, diesel locomotives) has slowed down. An increasing percentage of transportation tasks are carried by road transport. During the same period, the fuel needs of air transport are going to double. Transportation also uses light fuels almost exclusively (gasoline, kerosene, diesel oil). Energy use by the communal sector will also increase substantially during the plan period.

Table 6
Total and Unit Energy Demand for Transportation
(without private automobiles)

Category	1970	1975	1980
Total fuel use (PJ)	71	79	88
Fuel use per unit output (kJ/forint)	1163	1000	907

Table 7
Energy Use by Communal Sector

Category	1970	1975	1980
Fuel use (PJ)	198	213	241
Electrical energy consumption (billion kWh)	1.8	3.2	5.3
Gasoline consumption (1000 t)	270	620	830
of this, by the population (1000 t)	170	480	660
Number of dwellings (1000)	3090	3410	3762
Number of automobiles (1000)	220	586	1030
Fuel use per dwelling (GJ)	64	63	64
Electrical energy consumption per dwelling (kWh)	582	938	1409
of this, in Budapest	1386	1846	2280
in provinces	417	741	1220
Gasoline consumption per private automobile (kg)	772	819	640

According to preliminary data, during the Fifth Five-Year Plan,

- the number of dwellings will increase 10.3 percent, the average number of rooms 5 percent, fuel consumption by households 13.1 percent and electrical energy consumption 65.6 percent;

- the number of private automobiles will increase by 76 percent (to 1,030,000) while gasoline consumption will go up 33.8 percent.

Due to the rise in living standards, fuel consumption per household will increase in line with the growing number of apartments and more rooms per apartment. Electrical energy consumption is increasing six times faster than the number of apartments.

The increase in fuel, gasoline and electricity consumption by the population over five years represents about 22 percent of the total increase in demand for the entire national economy. In particular, fuel consumption per household remains essentially unchanged. Electrical energy consumption increased by half. Gasoline consumption per automobile declined by approximately 22 percent from 1976 to 1980.

From the standpoint of total energy use, the period of the Fifth Five-Year Plan may be divided into two district intervals:

- Between 1975-1978, consumption increased rapidly. Fuel use grew at an average annual rate of 5.4 percent while electricity demand increased 7 percent annually. (Demand grew especially rapidly in 1978 as a result of the unfavorable weather.)

- During 1979-1980 the rate of growth slowed down. Fuel demand is increasing by 0.6 percent annually. Electricity consumption is growing by 1.9 percent per year.

Table 8
Total Fuel and Electrical Energy Consumption of the National Economy from 1970 to 1980

Category	1970	1975	1980
Total fuel use (PJ)	909	1076	1277
Total Electricity demand (billion kWh)	17.9	24.6	31.5

The variations in the growth of demand may be noted quite clearly when the fuel and electricity consumption data for the 1970's is subdivided into four great homogeneous consumer groups.

Table 9
Energy Demand from 1970 to 1980 (PJ)

Év (3)	Szükséglet (1)				
		Ebből: (2)			
				a kommunális szektor	
	Összesen (4)	a villamosenergia hőigénye (5)	a termelő szektor igénye (6)	fűtőanyag (7) fogyasztása	motorbenzin fogyasztása (8)
1970	909	214	486	198	11
1975	1076	276	561	213	26
1978	1260	343	645	238	34
1980	1277	356	645	241	35

KEY:

(1) Requirement
(2) Of which:
(3) Year
(4) Total
(5) Heat demand for electrical energy
(6) Demand by productive sector
(7) Fuel consumption by the communal sector
(8) Gasoline consumption by the communal sector

Average Annual Growth of Energy Demand From 1970 to 1980 (percent)

Időszak (1)	Átlagosan (2)	A villamosenergia-iparban (3)	A termelő szektorban (4)	A kommunális szektor fűtőanyag- (5) fogyasztásában	A kommunális szektor motorbenzin- fogyasztásában (6)
1970—1980	3,6	6,3	2,9	2,0	12,3
1970—1975	3,5	6,3	3,0	1,4	18,7
1975—1978	5,4	7,5	4,8	3,8	9,3
1978—1980	0,6	1,9	0,0	0,6	1,5

KEY:

(1) Period
(2) Average
(3) In electrical energy industry
(4) In the productive sector
(5) In fuel consumption by the communal sector
(6) In gasoline consumption by communal sector

- Heat demand for electrical energy production represented approximately one-quarter (24 to 27 percent) of total heating fuel use by the national economy.

- Fuel (and, in particular, base material) use by productive sectors represented more than half (51 to 53 percent) of the total requirements of the period under consideration.

- Heating fuel consumption by the communal sector (housholds and public institutions) represented 19 to 22 percent of the total demand.

- Gasoline consumption by the communal sector represented only 1.2 to 2.7 percent of the nation's fuel needs during the past 10 years.

Consumption by these four groups grew at different rates during the last 10 years.

- Gasoline consumption in the communal sector grew at an average annual rate of 12.3 percent. In particular, the rate of growth was 18.7 percent per year during the Fourth Five-Year Plan, 9.3 percent per year from 1975 to 1978 (as a result of the first price increases) and 1.5 percent per year in 1979-1980 (as a result of further gasoline price increases).

- Heating demand in the communal sector grew 2 percent per year during the 1970's. Between 1970 and 1975 the annual growth rate was 1.4 percent, from 1975 to 1978, 3.8 percent. In 1979-1980 the annual growth was just 0.6 percent, due to higher prices for household fuels and favorable weather.

- The average annual growth of energy demand by productive sectors in the 1970's was 2.9 percent. In particular, the annual growth rate was 3 percent from 1970 to 1975, 4.8 percent from 1976 to 1978. There was no growth in 1980 due to a reduction in output and the increasing attention paid by enterprises to local tasks of energy conservation.

- Fuel demand for electricity generation grew at an average annual rate of 5.3 percent during the past decade. In particular, the annual growth rate was 5.3 percent from 1970 to 1975, 7 percent from 1975 to 1978 and 1.9 percent in 1979-1980, as a result of savings in electrical energy use.

A number of measures were taken after 1975, in line with the changing world economic situation, with the aim of encouraging conservation, including the modernization and improved efficiency of geological exploration, expansion of domestic coal, oil and natural gas production, reduction of non-ruble oil imports, regulation of the marketing of energy resources, several increases in the producer and consumer prices of energy, preservation of the existing level of coal use, and increasing the number of energy-related investment projects aimed at improving efficiency and reducing losses.

One factor contributing to our increased energy demand is our delay in passing on the world market energy price changes to consumers. As a result of artificially low hydrocarbon and electricity prices, energy conservation in production and consumption did not begin in time. As a result of the price increases, substantial savings in fuel, electrical energy and electricity output were achieved starting from the second half of 1979.

In five years, fuel use has expanded by about 201 PJ and electricity use by 6.9 billion kWh. The growth in fuel use is supported by importing oil and natural gas equivalent to 4.6 million tons of oil and electrical energy equivalent to 0.8 million tons of oil. Approximately 90 percent of the five year increase in demand is supported from imports.

Due to the slowdown of economic growth and the conservation measures, fuel consumption in 1980 will be about 5 percent less than the target of the Fifth Five-Year Plan. Electrical energy demand will be about 10 percent below target.

Table 10
International Comparison of Our Per Capital Energy and Electricity Consumption

	Egy lakosra jutó évi			
Ország (1)	összes tüzelőanyag felhasználás (2) (GJ/fő/év)		villamosenergia-felhasználás (3) (kWh/fő/év)	
	1976	1980	1976	1980
NSZK (4)	174		4429	
NDK (5)	199		4146	
Szovjetunió (6)	164		3717	
Ausztria (7)	118		3570	
Csehszlovákia (8)	217		3557	
Bulgária (9)	138		2895	
Lengyelország (10)	154		2372	
Románia (11)	118		2058	
Magyarország (12)	104	110	1974	2700

KEY:

(1) Country
(2) Total per capita annual fuel consumption (GJ/year)
(3) Per capita annual electrical energy use (kWh/year)

(4) FRG
(5) GDR
(6) USSR
(7) Austria
(8) Czechoslovakia
(9) Bulgaria
(10) Poland
(11) Romania
(12) Hungary

Per capital consumption indicators are influenced by technological sophistication, economic development, production structure and the climate in each country. These data show that our per capita consumption levels are relatively low compared to our conditions and production level.

The long range outlook justifies a consistent effort toward strict energy conservation. We cannot aim for any substantial increase in per capital energy consumption. There is nothing wrong with lagging behind European socialist countries or comparable capitalist countries in terms of per capital energy consumption indicators, based on a less energy-intensive production structure. This "lag" is already an advantage for us in terms of our trade balance.

Overfulfillment of coal, oil and natural gas production targets contributed to supplying our requirements in the period from 1975 to 1980. In five years, it replaced about 3 million tons of non-ruble oil imports.

By 1980, the percentage of hydrocarbons in the structure of energy sources will be about 64 percent; of solid fuels, 28 percent; of other sources, 8 percent.

In 1980, 54 percent of our total requirements are covered from imports and 46 percent from domestic production.

Hungarian-USSR cooperation in the energy field expanded greatly during the Fifth Five-Year Plan period:

- In terms of thermal value, Soviet energy deliveries are larger than domestic production.

- Between 1975 and 1980, our imports of Soviet oil and oil products increased by 1.5 million tons.

- The Orenburg gas pipeline has been completed on schedule. This resulted in a 2.8 billion cubic meter increase in our natural gas imports.

- The 750 KV electric power line came on line on schedule, making it possible to expand electrical energy imports by 3.5 billion kWh annually.

Due to the rise in imported energy prices, the total cost of our fuel imports for 1980 will impose a burden of approximately 42 billion forints on the nation, while the cost of our domestic production is about 25 billion forints. (In 1975, the total cost of energy equaled approximately 6 percent of our net national produce; in 1980, it was 12.5 percent).

Energy sectors increased their investments substantially during the plan period concluded this year. Calculated at comparable prices, completed investments total approximately 116 billion forints. 14 percent of this sum is used in coal mining, 37 percent in the oil and gas industry and 48 percent in the electrical energy industry. The remaining 1 percent represents state support for energy conservation investments on the enterprise level. About one-third of all industrial investments is spent on energy development.

Completed investment projects in the energy sector, combined with savings achieved since 1979, create favorable conditions for the start of the new plan period in terms of capacities.

Guidelines of the Sixth Five-Year Energy Management Plan

Work aimed at formulating energy guidelines for the Sixth Five-Year Plan has been in progress for a number of years. Planning was made more difficult as a result of substantial changes in external conditions in the intervening period:

- In 1979, the growth rate of the Hungarian economy slowed down;

- Crude oil prices continued to rise at an accelerated rate since 1979;

- It became apparent that even a moderate quantitative growth of our socialist imports will be possible, sooner or later, only at world market prices.

This means that the tasks of energy management, size, rate and structure had to be formulated for the new plan period not by extrapolating past growth rates but by using a completely new approach.

Formulation of the Sixth Five-Year Energy Management Plan is based on four principles:

- The chief economic policy goal of the plan is to improve economic equilibrium. Our energy policy is subordinated to this goal.

- External and internal changes necessitate the strictest conservation measures in the field of energy and especially oil products.

- Domestic resources must be increasingly utilized.

- Limitations on potential investment apply also to the energy field. Therefore, the only investments envisaged are those absolutely necessary to satisfy needs and to prepare for the Seventh Five-Year Plan.

Slowing the rate of fuel and electrical energy use is necessary to contribute to an improvement in the balance situation. This is possible because:

- Economic growth is slower than in the past;

- Fewer installations with high energy use are built in energy intensive sectors;

- We are consciously giving priority to less energy intensive activities in the development of production.

The percentage of energy costs ranges from 3-5 percent in non-energy-intensive sectors to 20-30 percent in highly energy intensive sectors. The following are energy intensive sectors: all of metallurgy, organic and inorganic chemicals industry, cement, lime, brick, glass, sugar and paper industries as well as rail, road and air transport. These sectors use most of the total fuel and electrical energy consumed. Therefore, their development must be examined very carefully, with a great deal of attention paid to the modernizatio of the technologies they use. Their capacities must be developed only if their products (output) are economically sound when calculated on the basis of the capitalist world market price of the energy sources they utilize.

Energy demand per unit output in energy intensive sectors may be reduced by expanding international cooperation (e.g., agrochemical cooperation), quality development and reprocessing of products.

More rapid development of processing industry (machine industry, pharmaceuticals, food), agriculture and mass transportation is important both from an energy standpoint and for modernization of the production structure.

International experience shows that increasing the competitiveness of the economy and improving production structure are suitable means for continuing progress, reducing energy imports and energy investments and strengthening economic balance.

Energy use may be reduced without large scale investment costs through organization, better maintenance, stricter technological discipline, conservation of energy intensive materials and careful collection and recycling of waste.

It can be taken for granted that we will be able to obtain energy only at prices growing at an above average rate. The only way in which we are able to compensate for this, at least in part, is by slowing the growth of demand through conservation.

The potential, limitations and timetables of energy conservation cannot be precisely measured and planned. International experience since 1973 shows that there exist numerous possibilities for energy conservation, both in an absolute sense and per unit output, even when the innovation process is slowed down and investment activity slackens. Energy conservation measures and the elimination of waste are mainly useful for gaining time to find long range solutions for energy problems. (In the long run, the solution can come only from close international cooperation and sweeping technological development.) We sorely need to gain time through conservation. Frugal management can reduce costs, slow import demand and make our exports more economic. In the final analysis, national income may be increased faster; the same is true for its domestic utilization.

Energy conservation is closely related to product and production development. Of course, the population is unwilling to give up advantages of more convenient forms of energy, especially electricity and household gas. Nevertheless, following the consumer price increases, the general population had some incentives to replace household appliances with more energy efficient brands. Unfortunately, the marketing of such appliances in our country continues to be based exclusively on quantitative considerations. Consumers are happy just to be able to obtain the appliances they desire. Therefore, the sale of inefficient, outdated consumer appliances must be stopped by administrative measures and the selection and scale of more energy efficient household appliances must be expanded. This can lead to substantial energy savings for the national economy while reducing the expenses born by the population.

In agriculture and forestry, savings could and should be made mainly in the area of crop drying and the utilization of waste for fuel. The aim should be to spread energy efficient, modern fodder processes and methods throughout the country and to use plant by-products when they are suitable as fodder.

Savings may be made in the transportation field through increased use of mass transportation opportunities, better utilization of vehicles and the replacement of obsolete, low mileage vehicles.

In the area of apartment construction, more attention must be paid to heat insulation of newly built housing.

The tenants of our largest housing estates pay a flat rate for space and water heating. This provides no incentives for conservation. It would be sensible to switch to individual billing as soon as possible by creating the financial and technical preconditions necessary.

In the productive sectors, the modernization of energy consuming installations is an important aspect of energy conservation. The Ministry of Heavy Industry and the National Technical Development Committee explored the concrete conservation methods that could lead to energy savings equivalent to 1 million tons annually by 1985. Many types of rationalization investment are possible (modernization of production processes, improved efficiency of heating and heat transformation equipment and utilization of geothermal energy and combustible waste). Utilization of these opportunities is, in general, economically feasible because the cost of such rationalization is usually less than the cost of developing energy production.

Due to the rise in world market crude oil prices, we expect to let domestic energy prices rise to near world market price levels. This means that users will have more incentives to achieve savings and initiate rationalization investments. At current world market prices, most investments pay for themselves in 3 to 4 years. In addition, rationalization is accompanied with technological modernization in the majority of cases.

Savings achieved through rationalization investment can help to reduce the importation of the most expensive form of energy (non-ruble crude oil). This is an important interest of the state. Thus, rationalization investments by enterprises are assisted by main contracts, credits and also state support in cases where it is justified. Rationalization projects of the highest importance (railroad electrification, utilization of natural gas with high inert gas content for power generation, etc) can be accomplished as state lump sum investments using central resources.

Energy conservation is an inescapable necessity, both in the productive sectors and in final consumption. Conservation measures must encompass the production, transportation, transformation, distribution, service and use of energy. An energy management program must be formulated to organize and coordinate the necessary measures.

With slowed economic growth, modernized production structure and the spreading of rational energy use we can accomplish the following:

- The average annual fuel demand growth of 3.5 percent and electricity demand growth of 5.8 percent during the 1970's may be reduced in the period of the Sixth Five-Year Plan to 2.0-2.5 percent in the case of fuels and 4.0-4.5 percent for electricity. With stricter conservation, it is possible to ensure that real growth in demand remains at the lower end of the expected range;

- Industrial energy demand per unit output (kJ/forint) could be reduced by 20 percent in five years; unit demand in transportation may be reduced by about 10 percent;

- The growth in agricultural and household energy demand may be substantially slowed down relative to the past.

Improving our balance situation requires a change in our energy structure toward a smaller role for hydrocarbons and reduced percentage of imports. The latest "oil price explosion" in 1979 requires a reduction in the use of oil products within the structure of energy utilization. To implement this requirement, it is necessary:

- To improve the efficiency of geological exploration of hydrocarbons and provide the conditions necessary to accomplish this;

- As far as technologically possible, to utilize fully the proved domestic reserves of coal, oil and natural gas.

The Sixth Five-Year Plan assumes the construction of a 1 million ton annual capacity cracker plant (to increase the proportion of gasoline and diesel oil). This will help to minimize our oil imports and improve our fuel situation.

The efforts aimed at changing the energy structure began in the period from 1975 to 1980 with the investment projects of the eocene coal mines and the Paks nuclear power plant.

The decline in the capacity of existing coal mines is compensated by the output of new mines (Markushegy, Nagyegyjaza) in the beginning of the Sixth Five-Year Plan period. By 1985 we can plan for an expansion in output.

The Paks nuclear power plant is being built with the greatest possible concentration of resources. Following trial runs, the first unit will operate at full capacity in 1982. Further units may be put into operation by the end of the plan period. Thus, nuclear energy will play a part in shaping our energy structure beginning from 1982.

Due to our unavoidable need to import, we are counting on imports already agreed upon with socialist countries, primarily with the USSR. One of the most important items in increasing our imports will be the imports of electrical energy from the Khmelnitsk nuclear power plant.

Pipeline gas may be delivered to an additional 120,000 households located near existing gas pipelines in order to reduce the growth of household heating oil consumption in the Sixth Five-Year Plan period. The extra gas is to come out of supplies for gas-fired power plants.

The conditions for further expansion of household propane-butane gas are present.

As a result of measures aimed at a reshaping of the energy structure, the decline of solid fuel as a percentage of consumption will slow down; the share of hydrocarbons will decline 4 to 5 percent; nuclear energy will appear on the scene at 7 percent; the rest (electrical energy import) will continue at 8 percent.

Table 11
Trends in the Structure of Our Energy Use from 1970 to 1985 (percent)

Category	1970	1975	1980	1985
Solid fuels	30	36	28	25
Hydrocarbons	63	58	64	60
Fission materials	-	-	-	7
Other	7	6	8	8

The most important consequence of the structural transformation is that approximately 80 percent of the increase in demand in 6 years will be supplied from domestic sources (for the most part, nuclear energy; to a lesser extent, eocene coal and gas with higher inert content). This represents an about-face compared to the trend of the past, characterized by the fact that 90 percent of the domestic demand growth of the Fifth Five-Year Plan was satisfied from imports.

Table 12
Percentage of Domestic and Imported Energy Sources From 1970 to 1985 (percent)

Category	1970	1975	1980	1985
Domestic sources	64	53	46	49
Imports	36	47	54	51

The imperative need to strengthen economic equilibrium and reduce domestic utilization (in particular, investment opportunities) make it necessary to reexamine the investment targets set for energy-related plants. These investigations are in progress. The present and expected future decline in the growth rate of energy demand make it possible to postpone the start of new energy generating plants targeted earlier. This possibility is important not only for relieving the budget, to some extent, but also because it allows for a better concentration of resources on coal, oil and gas investment projects already in progress, preserving the level of output within the energy production system and completing our most important large scale investment project, the Paks nuclear power plant.

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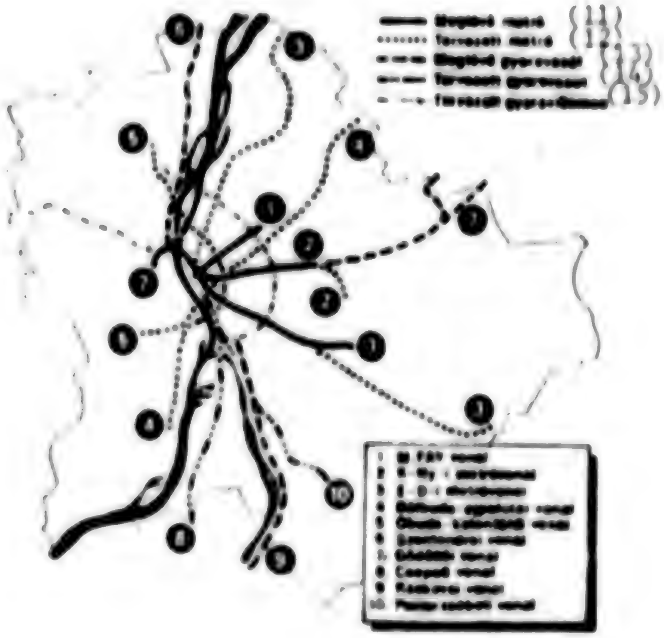
DEVELOPMENT OF BUDAPEST TRANSPORTATION SYSTEM DESCRIBED

Budapest FIGYELO in Hungarian No 42, 15 Oct 80 pp 1, 2

[Text] Figure 1. The Capital City's Rapid Transit Network



Key:

1. The line of the Milenium Subway
2. East-West subway line
3. North-South subway line
4. South Buda-Ujpalota line
5. Obuda-Kelenfold line
6. Szentendre line
7. Gedollo line
8. Csepel line
9. Rackeve line
10. Pesterzsebet line
11. Existing subway
12. Planned subway
13. Existing rapid transit
14. Planned rapid transit
15. Planned rapid street car

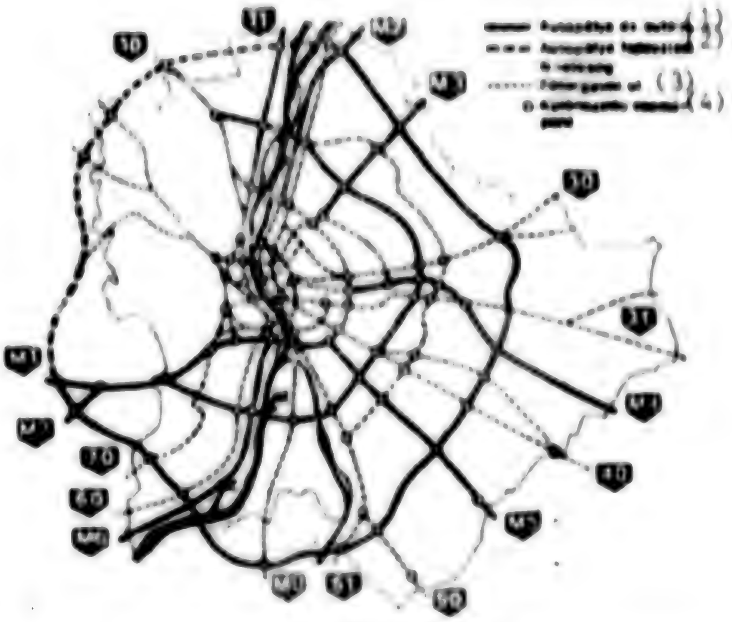


Figure 2. Long-Range Plan of Budapest's Thoroughfare Network

Key:

1. Freeway and highway
2. Possibility for extending freeway
3. Main thoroughfare
4. Bi-level junction

[numbers in black refer to state highways]

What will traffic be like in the coming millenium? Science fiction would probably give breath-taking answers but the third millenium--the next century--is almost at arms length; it is so close that the answer must be very realistic, not fictitious. And it must be found. This was accomplished by the Capital City Council's main directorate of transportation: it developed greater Budapest's long-range transportation plan and submitted it to the council meeting.

The revised plan, accepted by the Ministry of Transportation and Postal Affairs and the Pest Megye Council, is built on numerous prerequisites and preparatory work, and, of course, is closely linked with plans of urban development, public utility development and apartment construction. Of course, these plans consider not only with the distant future but also with the immediate future: it defines the goals and tasks of transportation development in two stages. The first stage goes until the turn of the millenium, the second includes about 20 additional years, giving an outlook up until 2020.

Like most concepts involving the future, this one also starts with the past and present, namely, that the country's main railway and highway network, in essence, centers around Budapest and thus a significant transit traffic goes through the capital city. The capital city also has its own center: a significant part of the trade, services, catering, education and the public institution network are concentrated in the downtown area. Subcenters in

Obuda, Lagymanyos and Ujpest, and suburban centers in the neighboring Szentendre, Erd, Szazhalombatta and Dunakeszi, are being established slowly.

The capital city occupies hardly one-third of the agglomeration's area of 1,670 square kilometers, and the zone of the neighboring 43 settlements constitute more than 1,000 square kilometers.

The Attainable Speed

How many of us and how do we travel in Budapest today? On an average working day, capital city dwellers and people coming from the provinces make 5.3 million fares. In addition to this, the number of trips made on foot or bicycle is estimated to be 1.4 million. The plan does not even mention, how much the capital city's roads and vehicles are being used by foreign tourists, but we know well that during the tourist season several million guests stay in the capital city for longer or shorter periods.

Sixty-six percent of those living in Budapest--and of those who come in to work and to study--use mass transportation, 12 percent use cars and motorcycles, and 22 percent travel on foot and bicycles. Some 310,000 passengers arrive daily in the capital city; 81 percent of them use mass transportation, 19 percent use private means. Compared to 1970 the number of people arriving in the capital city has not changed--like the means of transportation has: the commuters use trains to a lesser extent and more people use the bus, the passenger car and the motorcycle than 10 years ago.

It is apparent from this that the capital city's road network is under an increasing load. Passenger car traffic in 1975 was 3.8 times that of 1963, and truck traffic almost doubled. Two-way traffic across city limits in 1975 was 4 times, and transit traffic was 5.3 times that of 1963.

The presently attainable speed of the traffic gives us important guidelines for the future. A speed of 40 to 50 kilometers per hour can be reached only on roads with less traffic; roads with heavy traffic can handle only an average of 20 to 30 kilometers per hour, while drivers must be content with a "speed" of 5 to 10 kilometers per hour on the busy downtown streets. On the other hand, the passenger on the mass transportation conveyances travels at an average speed of 15 to 20 kilometers per hour even in rush-hour; it is possible to travel, even in the heaviest rush-hour, at a speed of 15 to 18 kilometers per hour on street cars and trolleys, 20 to 22 kilometers per hour on buses and 30 to 33 kilometers per hour on the subways and suburban trains. Of course, the trains, suburban trains and buses can move faster between the suburban residences and the city. True, the lines of the Hungarian State Railways are very crowded during rush-hour: in the most critical areas, there are twice as many passengers than seats.

In Harmony With Urban Development

How will all of this develop in the future? It also depends on how transportation needs will develop. These are, however, influenced by many things, for example, the development of the entire national economy, the increase in living standards, the life style, the change of proportion between accumulation and consumption and the development of the infrastructure. Other decisive factors are: future settlement policy, development of the metropolitan area, the expected size of the population, the increase of motorization and, last but not least, the distances between residences and work places. The plan does not mention the possibility of considering in the future the distance of the work place when distributing apartments or the fact that staggered shifts would alleviate the problems of passenger transport.

On the other hand, it reckons with the expected pace of apartment construction. According to the 15-year plan, 300,000 new residences will be built in the capital city between 1976 and 1990 which--also considering buildings to be torn down--means that the number of residences will increase by 190,000. About 90 percent of the residences are built in complexes and on mostly new, undeveloped or sparsely low population density areas.

We can reckon with the construction of 55,000-60,000 apartments in the agglomeration zone by the turn of the millenium; almost half of these are going to be built in multi-level complexes. Such complexes are expected to be built mainly in Budaors, Szigetszentmiklos, Szazhalombatta, Dunakeszi, Kerepestarcsa, Gyal, Diosd, Pilisvorosvar, Solymar, Budakalasz, Pomaz, Erd and Dunaharaszti.

Thus the roads and mass transportation lines leading to these districts and towns have a priority in the development. Traffic (the network and the projects) must follow the area's structural changes in a way that meets the requirements of urban development as well. In other words, the new and old sections of the city, the residential areas, the work places and recreational areas as well as the suburban areas must be connected. In addition to this, it is, of course, also important not to increase significantly the time of getting from one place to another, in spite of the development of the fringe areas and the suburban zone, and the increase in distances.

More passengers will ride from the suburban zone to the capital and thus transportation service must be expanded and increased accordingly.

Cars Should Be Used Only for Free Time

What will commuter and transportation needs be in the coming decades? The data of an earlier traffic survey in the capital city can serve as a sound basis for preliminary estimates. At the same time, the traffic of more motorized and more developed large cities have also been studied.

The drafters of the plan came to the conclusion that the increase in traffic needs are caused mainly by the increase in the number of free time related trips. Higher living standards entail a higher level of motorization, and this is followed by a higher level of mobility and increased individual needs for transport. At the same time, relatively fewer people will use their own car to go to work and then home, preferring public transportation. According to the calculations of traffic specialists, people in the capital will continue--even in the more-distant future--to use public transportation:

two-thirds of them will use it on a daily average, three-fourths of them in rush-hour. Public transportation should be improved not only because everyone can afford and use it but also because in the downtown areas it cannot be physically substituted by individual transport.

According to preliminary estimates, there will be 450,000-550,000 passenger cars in the capital at the turn of the millenium; this relates not only to the country's economic situation and energy supply but also on the environmental protection.

The Rapid Transit Network

These calculations and estimates were the basis of the developmental plan, an important element of which is the construction of a rapid transit network. This network will consist of the subway and the HEV [Budapest Suburban Railway System] which will be developed into a rapid transit system. The express lines of the street car system, and the rapid and express bus lines will be connected to this primary network. (Maintaining and expanding the electric power line network is necessary from the standpoint of both environmental protection and energy management.)

With the construction of the rapid transit network, the role of above ground public transportation is going to be changed; mostly it will be limited to take the passengers to the subway and suburban transit stations. According to the plans, only one kind of transport will be available to passengers on a given line; parallel transport will be necessary only on shorter sections where the limitations of the road network make it necessary.

The rapid transit network will not only serve the downtown areas but will also connect the city's peripheral districts and will make it possible to transfer to the larger train and long-distance bus stations. Street cars will be needed primarily in those areas which are not connected to the rapid transit network.

Within the electric street car network, the rapid street cars which will make improved transport possible through their larger capacity, and their lines which aid a uniform frequency and the maintenance of speed, and through traffic control.

The street car lines which run parallel with rapid transit lines, as follows from the above, will gradually be discontinued. Lines with light traffic and outdated lines as well as lines with medium-light traffic which stand in the way of the road network construction, will be substituted with buses and trolleys. The remaining and new street car lines for the most part will be separated from road traffic. The realization of the individual elements of the planned network of rapid transit and street cars depends on the variations of the apartment construction plan.

Trolley bus traffic is best on heavily and moderately used bus lines and on little used and outdated street car lines. The introduction of trolley buses is also justified from the standpoint of environmental protection in the heavily developed areas of Pest, in the hills of Buda and in the green areas which attract large masses. The plan considers the establishment of 3 to 5 trolley bus lines every 5 years as realistic

The bus is an indispensable and universal means of urban public transportation: it can be used flexibly in every stage of the development. Rapid and express bus lines are needed where there is no rapid transit. Buses are also suitable for accommodating seasonal traffic. In order to improve suburban bus transport, it is necessary to expand and modernize the bus pool and to construct new stations.

The long-range objective of the development of the road network is to continue with the building of a system of express ways and arterial roads; this will make it possible to decrease traveling time, to increase the capacity of the road network and to improve traffic safety. The new roads are being built in a way to free the capital from an increasing part of transit traffic.

At what pace can the development of the traffic network be implemented? As far as the subway is concerned, line 3 (the north-south line) is under construction at present and will reach the Elmunkas Ter [Ace Worker Square] in 1981. It will then proceed to the Arpad Bridge and to the Kaposztasmegyer apartment complex. Line 4 will connect South Buda with Ujpalota by the end of the century, and will make it possible to discontinue several street car lines (Kiskorut, Thokoly Avenue, Csomori Avenue). The construction of line 5 will begin in the mid-1990s between Vienna Avenue and the Baross Square.

Old and New Bridges on the Danube

Transfer centers like the ones at the Chief Ors Square and Batthyany Square will be built for transfers between the subway and the suburban transit. The lines of the latter will gradually be reconstructed, up-dated and extended. The Csepel line, for instance, will go underground all the way to the Calvin Square and, in stage 2, in the opposite direction to Szigetszentmiklos. A new suburban line will be built between the Calvin Square and Pesterzsebet.

The lines of the Hungarian State Railways will also be modernized: additional tracks will be laid, the safety equipment will be automated. The railroad stations will be reconstructed and transfer to the subway will be improved. Similarly, connections between the subway and the long-distance bus lines will be improved: new bus end stations will be built alongside the subway lines.

The capital's bridges over the Danube are very important not only for local traffic but, for the time being, also for national traffic. The renovation of the Margaret Bridge and the Petofi Bridge has been finished; that of the Liberty Bridge is being done at present; the renovation of the Chain Bridge will be due in 1983; and the inpsection of the Elizabeth Bridge will be due in 1985. The Arpad Bridge will be rebuilt by the mid-1980s in a way to accommodate six lanes plus street car tracks. The Gubacs Bridge is being rebuilt at present and the Danube Bridge at Taksony will also be modernized by the end of the century.

There are plans to build the Lagymanyos Bridge south of the Petofi Bridge in order to ease downtown traffic and to make a better connection between the peripheral districts. In the construction of the so-called compound boulevard and the beltway, two additional bridges over the Danube will be needed, one in the north, one in the south. According to the plans, the central bridges' traffic will be helped by a tunnel for cars under the Danube. In the future, four subway lines will go under the Danube; this will correspond, from the standpoint of mass transportation, to four new bridges.

Part of the plan is the program which determines the construction of freeway connections in the city, and the expansion of the connections of the main national highway network and the inner road network. Freeways will be connected with the Hungaria Circular Boulevard and its continuation in Buda, through bi-level junctions. In the more distant future, the MO circular freeway will connect the freeways and will direct transit traffic outside the city.

The capacity of public roads is mostly determined by the intersections which will have several levels at the convergence of freeways. The railway junctions of the single-level heating network will be rebuilt as bi-level junctions.

In addition to the freeway program, the arterial roads in the agglomeration zone will be improved, and modern intersections will be built. The goals also include the improvement of the local road network of the residential areas.

On Foot and on Bicycle

Pedestrian traffic must also be considered in downtown Budapest. Additional streets and squares will be off limits to vehicles, and passageways will be built in certain buildings and underground passages in other places. Decorative paving, public lighting, green areas, statues, space sculptures, stores and catering businesses are being planned for these places. The improvement of pedestrian traffic is also justified in the heavily populated complexes of the agglomeration zone.

Traffic safety requires the improvement of traffic control and regulation. Traffic lights in the inner city and on thoroughfares will be centrally inspected and controlled, and an automatic system of traffic control based on traffic data will also be established.

In order to improve freight transportation, warehouses must be moved out from the downtown and residential areas. Priority will be given to goods transport traffic that directly serves the population. Special routes should be assigned to large-volume freight transport and heavy vehicles. However, the plans can also be realized, for example, by modern packaging, a modern system of ordering goods, delivery after store hours or selling by samples. An up-to-date method of ordering, an appropriate standard load, and organization that also includes routes of transportation are needed, among other things, for a programmed transportation of goods.

The necessity of improving and regulating parking is shown, in addition to our everyday experience, by the fact that a passenger car is driven only an average of 2 hours out of 24, and is parked for 22 hours. Short-term parking must have a priority in the centers of Buda and Pest and other cities; people working there will have little possibility to park their cars on the streets during working hours close to their jobs. Parking spaces must be reserved for loading and unloading goods and for official vehicles. The number of parking spaces in downtown can only be increased by more garages. The area's parking needs, arising from its central role, must be met by regulating the parking time through tariffs, namely, tariffs must increase in proportion to the lack of parking space when moving toward the center of the city.

The "P+R" [Park and Ride] parking lots are primarily for more extended parking of vehicles coming from peripheral areas. For this reason, this system is being developed together with the construction of the rapid transit network. With the completion of the entire rapid transit network, there will be 25 "P+R's for about 10,000-12,000 passenger cars. According to the plan, there must be two parking spaces for each three apartments in the new apartment complexes.

As it is apparent from the above, the capacity and quality of public transportation will be developed in the coming decades in such a way that the use of personal passenger cars can be set within sensible limits.

And, returning to the initial question--what will traffic be like in the coming millenium--we can give a concise answer: Essentially, it will be the same as today, only faster, more comfortable and safer. This is at least what the plan, which was accepted at the 10 October meeting of the Capital City Council, is hoping for.

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CSIKOS-NAGY VIEWS EXPERIENCES OF INDUSTRIAL PRICE SYSTEM

Budapest MAGYAR HIRLAP in Hungarian 19 Oct 80 p 7

[Article by **Bela Csikos-Nagy, state secretary**: "The Lessons of the Industrial Price System"]

[Text] In wake of the 1980 price readjustments, the trend in wage-developments is guided by the new mechanism. In industry, we have reduced the directed price controls to the minimum so as to put rationalized company attitudes under the control of the market places, especially under foreign market places, as reflected in foreign trade prices.

The companies and collectives that have ended the traditional pricing system, based on the cost of production, and those that have introduced competitive pricing generate about two-thirds of our industrial production. The introduction of competitive pricing means that no company will be able to charge more for its products sold on the domestic markets, than for those it is able to sell on the free hard-currency export markets. At the same time, however, it should also have the right to profits calculated under this system. Thus, normative profits will be controlled not by price effectiveness, but by the ability to withstand international competition.

But not all industrial establishments are producing for export. Even so, many are manufacturing products which, on the basis of the value of their use, can be compared to export products. The goal to expand the application of competitive pricing resulted in the introduction of a proportional pricing system. According to this system, when companies that are involved in the exporting of goods produce items that are similar to export goods, they must establish their prices in relationship to export prices.

We have used the principle of proportional pricing in conjunction with consumer prices for several decades. From the very nature of things, commerce looks upon the world of products through the eyeglasses of the consumer; and it weighs the quality of the various selections intended to satisfy identical needs on the basis of price relations. When industry offers a new set of manufactured goods, commerce immediately examines them and their useful characteristics on the basis of how these goods can be fitted into the price system familiar to the consumer. This system based on market value will not also be extended to industrial production prices. We can justify better quality and updated selections in connection with a set of goods only if the resulting prices will also prove acceptable to the consumer.

After the Prize Freeze

After a brief price freeze, the new industrial price mechanism will go into effect on April 5, and then it will go into full force by mid-October, following a period of price readjustments.

The transfer from the old to the new price mechanism will be possible only through a significant restructuring of the production price relations. The price freeze in industrial production for the first quarter of 1980 was needed so that this transistion should not affect the stability of consumer prices. That which in 1979 was still a subject of debate, seems unquestionably justified today. It was correct to carry out decisions concerning consumer prices required by the price readjustments in July 1979, and then to continue them piecemeal in 1980. Notwithstanding the divergent readjustments of production and consumer prices, we were still able to establish the necessary close relationship between them. We are also certain by now that the increase in consumer prices in 1980 will amount to about 9.5 percent. But we can subtract from this percentage the impact of the 1979 price adjustments upon 1980 prices, in which case the inflation for 1980, resulting from the price movements, will remain within the planned 3.6 percent.

This is the first time since the introduction of socialist pricing system that we have had a price readjustment which does not end with the introduction of new prices. On this occasion we have made it an important point--on the basis of experiences of earlier price readjustments--to take into consideration problems stemming from errors in price prognoses, miscalculations, and occasional purposeful cost misrepresentations. This was needed in order to keep normative prices, as well as to permit prices to fulfill their orienting functions in rational economic decisions.

We have worked out proposals for starting prices and for correcting financial bridges connected with these, on the basis of the semi-annual balance sheets. These were accepted by the Council of Ministers with only a few modifications. At this stage of price readjustments, it was much more problematic to keep up with the more than expected rise of the prices of raw materials and of energy sources on the world market, than to correct errors in calculations. We must also add immediately, however, that the tendency to make calculations lightly was also evident in this price readjustment. And the only reason this did not create wider problems was that, on the basis of controlling calculations, the Council of Ministers has decreed the lowering of the new production price level by 3 percent already in 1979.

Even under these circumstances, there were attempts to achieve results beyond those earned, and beyond those determined by the capibilities of our national economy. Several industrial plants will have to decrease the level of their producers' prices in order to ensure a parity of income between their domestic and export sales. Some of the profit rates in trade will be decreased, and some of the domestic trade companies will have to terminate their price policy geared to too high a profit.

It is in the nature of things that when there is a fundamental change in the system of pricing, then temporarily the problems connected with the transition receive the most attention. It is easier to recognize the price system that is best suited to control the problems of economic growth, than to foresee all of the possible problems that might arise during the application of the system.

We are closing a learning phase. In cooperation with the ministries and the companies, the Price Office has conducted a series of consultations in the course of the past few months. In wake of these consultations a number of questions were found in need of elucidation, especially in connection with interpreting international competitiveness, describing more precisely desirable export pricing, and methods of achieving, this. The orders, directives, and proposals that were issued in the meanwhile have presumably brushed aside most of the obstacles in front of the smooth functioning of the industrial price mechanism.

The task of decreasing price bureaucracy is still ahead of us to a large degree. The introduction of the new price mechanism had hardly changed the methods of calculations, stock assessments and other technical methods. This must be changed, for otherwise the need to administer the more frequently changing prices will introduce new bureaucratic elements into the economy. One of the important tasks of the next period is for the price authorities, the financial organs and the companies to find a system of controls which will not require such a large administrative need for the control of changing prices as in the past.

We are also keeping on the agenda the new problems stemming from the need to inform the population. Public sentiment must be improved, i.e. the feeling of helplessness created by the uncertainties of prices in the relationship between the seller and the customer must be terminated. This is a significant problem. Research in this connection must also include the study whether we should establish a certain order in the otherwise justifiable changes in prices in connection with certain products.

Problems of Adjustment

We have to extend knowledge about the functioning of world economy both in the administrative and in the company sphere. This must be done so that we will be in a position to form value judgments with greater certainty both about individual, as well as about trend-like price changes; and in order to make it possible for us to develop the price system and the economy in general on the basis [illegible] lasting trends in the foreign markets. The solution of the problems is [illegible] difficult by the fact that the thinking of companies is often based on a mixture of subjective and objective considerations. The transfer from an easier price system to a tighter price system is naturally accompanied by many difficulties. The companies are often unable to deal with these more rigorous goals. For this reason, they are often trying to cover up their own weaknesses by references to the shortcomings of the system.

The most difficult problem of this adjustment is the transferral from the earlier industrial profit rate of 12-13 percent to the new rate of 6-9 percent. This limits developmental funds, and also makes it difficult to repay debts that were assumed earlier. For this reason it should be reemphasized that the decrease in the profit rate is not the result of the new industrial price mechanism. Because of the more difficult international conditions of economic growth, this decrease had to be introduced even into areas which still continue to function under the manufacturing cost price system.

That which can be interpreted as the result of the changes in the industrial price system manifests itself in the possibility of passing on costs. But the processing industry can pass on the rising prices of raw materials and of energy in the form of the products' sale prices only then and insofar as it can do this in its export trade. This must be regarded as the foundation stone of our economic calculations in this national economy, which is so sensitive to foreign trade. We can develop production forces only by systematically increasing our imports in energy and raw materials. This is the reason behind our expectations that economic growth should be realized only in conjunction with a production system, a manufacturing technology, and a marketing policy that, through the export of finished products, compensates us also for the cost of the imported materials and energy sources. But this rational principle seems to be incomprehensible to the industrial concerns. On the basis of past traditions, the automatic passing of costs is the system that appears natural to them. The most important lesson learned from the balance sheet of the first quarters of 1980 is probably that, with the exception of ten companies, the industry is capable of functioning within the new price mechanism. Moreover, with a few exceptions, these ten companies will also be able to adjust themselves in the course of the next year.

Following the publication of the basic principles of price adjustments, the decline of domestic demands, the consequent need to export, and our increasingly agile export policies have all pointed to the validity of the expected positive changes already in the course of 1979. The decline in demands was produced, among others, by the announced decrease in normative profits. This made the companies more careful in making decisions concerning investments. The re-examination of the export policies was placed on the agenda by the introduction of the competetive pricing system. We experience favorable changes in the relationship between industry and foreign trade and these have further improved since the publication of the detailed rules.

We Are Expanding Further

The companies have become more sensitive to changes in the world market. In their purchases they are more careful to order through foreign trade only those raw and base materials and parts that are realistically needed for production. The building of good relationships between industrial and trading companies have increased. The harmony between foreign trade and industry contract labor has improved, and so has the exchange of information between them. Company initiatives for undertaking exports in the most economical way, and for achieving savings in the use of raw materials have become more forceful. Sensitivity to costs is growing, while bargaining for prices has increased.

One of the central questions of price development in the course of the next few years will be: How can we extend the application of the pricing system geared to foreign trade, i.e. how can we introduce and make function a price system or price mechanism with a beneficial effect upon energy savings, material economizations, and structural improvements also in areas--such as the food industry and the building industry--that today still function under a pricing system based on production costs. Hopefully, our efforts will be crowned with success.

But in order for the positive influences to be universally felt, and to permit the freeing of those reserves which are needed for the fulfillment of the national economic goals of the next few years, our price and financial policy must remain constant. From the point of view of the development of the pricing system, it is extraordinarily important for us to increase continuously the pressure to export through the establishment of our equilibrium between purchasing power and the availability of goods. It is equally important to create favorable economic conditions for the improvement of the competitive conditions so as to aid the functioning of the price and the financial systems.

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SOURCE OF FOREIGN TRADE INDEBTEDNESS REANALYZED

Warsaw POLITYKA in Polish No 42, 18 Oct 80 p 17

[Article by Zygmunt Szeliga]

[Text] Poland's indebtedness is currently a very popular subject. The enormity of the debt, which was recently announced officially by Minister Marian Krzak, shocked many people. In all honesty, the uproar over this secret was an anachronistic absurdity which demonstrated a complete lack of imagination. In the first place, this information was systematically published by the Western press, which is easily accessible in Poland; secondly, anyone with a knowledge of elementary arithmetic could make the calculations himself and arrive at a more or less precise picture of our indebtedness on the basis of the data published in Poland. Several times in POLITYKA I myself published the basic data and indexes necessary for such computation. Below I will present a simplification of this methodology--it may be useful for the future.

But first an observation of another kind. It is that we must "get used to" debt, even becoming reconciled to the fact that temporarily it will continue to grow. The pessimistic prognoses of Western experts indicate that Poland's indebtedness may increase from its present rate of $20 billion to as much as $35 billion. I hope that the changes in economic policy which have recently been initiated will allow us to avoid such a high rate of indebtedness. Nonetheless, it is almost certain to reach $30 billion. This is demonstrated by elementary arithmetic. The interest alone on a debt of over $20 billion for this year is more than $2 billion. Or, to put it another way, in order to maintain our indebtedness at the same level, we should have a surplus of more than $2 billion in our balance of payments for the current year. It is pointless to dream about such a surplus; it is much more likely that we will end the year with a deficit of nearly $2 billion. Consequently, our total debt for the current year may increase by nearly $4 billion. We cannot count on a surplus in the balance of payments in 1981 either, which means that our debt will continue to increase. In my opinion, it will be 1983 before we achieve a significant surplus in the balance of payments and the stabilization of our indebtedness, and 1984-1985 before the debt once again drops to the present level.

This computation shows what a great burden is now placed on the economy by our indebtedness. On an annual basis, we must designate about one-third of all our revenues for export to nonsocialist countries for interest alone, in other words, the equivalent of our yearly revenues from the sale of coal, other fuels and energy and foodstuffs to the West.

For this reason the following question is very basic: how and why did it happen that we exceeded all of the limits of reason and accounting in our indebtedness?

But first another digression. In POLITYKA, in other media sources and in conversations with readers I have often come out as an adherent of foreign credits, a view I have not changed in the least. The evil does not lie in the fact that we have debts--this is absolutely normal under contemporary economic conditions--but that we have too many debts with reference to our objective economic potential. This is indicated by the fact that our debts have in part been contracted thoughtlessly and unnecessarily, and that some of them have not brought about the intended results.

Stanislaw Gruzewski discloses the machinery of this recklessness and inefficiency and presents striking examples. I would like to approach this matter from another angle--by precisely describing the growth of our indebtedness and "categorizing" our debts according to individual divisions and branches of the national economy.

Let us begin by answering the question: How did it happen, over the course of the decade? This will also be a short lesson in computing the state of indebtedness of the country, if officials do not make it known publicly.

To begin with we will make several simplifying assumptions. First, that credit purchases are in principle the only source of incurring our indebtedness. Second, that the only way to finance imports is through revenues from exports and essential credits. In actuality the whole operation is more complex than this, but this is not important for the purposes of accounting. One more simplifying assumption: let us assume that from 1971 to 1975 the interest on our credits average 8 percent annually, and that from 1976 to 1979, 10 percent. In reality, at the beginning of the decade our credits were cheaper, while in recent years they were significantly more expensive (I wrote about this mechanism several months ago in POLITYKA).

Having established these assumptions, let us use an electronic calculator or paper and a pencil and statistical yearbooks to set up the following table:

POLISH FOREIGN TRADE WITH NONSOCIALIST COUNTRIES

Year	Imports	Exports	Annual balance	Combined balance since 1971	Interest on annual balances
	(in millions	of dollars)			
1970	1,139	1,287	+ 148	X	X
1971	1,317	1,430	+ 113	+ 113	+ 9
1972	2,068	1,796	- 272	- 150	- 12
1973	3,805	2,534	-1,271	- 1,433	- 115
1974	5,828	3,681	-2,147	- 3,695	- 296
1975	6,796	4,123	-2,673	- 6,664	- 533
1976	7,374	4,442	-2,932	-10,129	-1,013
1977	7,014	4,858	-2,156	-13,298	-1,330
1978	7,378	5,488	-1,890	-16,518	-1,652
1979	8,038	6,350	-1,688	-19,858	-1,986
1971-1979	49,618	34,702	-14,916	-19,858	-6,928

Since I have systematically constructed such a table for several years, Minister Krzak's television announcement did not surprise me in the least. As you can see, our reports are identical...

Now a few remarks before we proceed with further analyses. In the first place, the table clearly shows when we exceeded the so-called safe limits of indebtedness, beyond which the necessity of designating 25 to 30 percent of our annual revenues from exports for the payment of our yearly installments and interest is generally accepted. In 1975 we were still within this limit, but by 1976 we were well below the mark.

Secondly: the so-called economic maneuver initiated at the end of 1976 is evident in the table. In 1977 it brought about a reduction in imports and a significant improvement in the annual balance. If this maneuver had been enacted 2 years earlier (and this was suggested) and if it had been more consistent, the catastrophe would not have resulted.

Thirdly, I would like to note (only parenthetically) the power of interest. If the data in the table are more or less accurate, then they demonstrate that only two-thirds of our present indebtedness corresponds to real economic values, or purchased goods, and one-third is sheer interest. On the other hand, inflationary processes on the world economic market are also a significant factor. To put it another way, if this surplus of import over export in the years 1971 to 1979 were converted to present prices, the difference would amount to more than only $14.9 billion--it would possibly be over $20 billion. The increase in prices, as it were, "returns" a significant portion of our interest to us.

Fourthly, let us remember that we have noted a rate of turnover of less than one-half of our foreign trade for the 10-year period. For your information: turnovers with socialist countries from 1971 to 1979 closed both for imports and exports at the quotas of $52.8 billion.

Fifthly, if we combine our imports from nonsocialist and socialist countries, the total for the decade amounted to $102.4 billion; exports to these two groups of countries amounted to $87.5 billion. Lest these figures shock or delight, the following should be taken into account: what we have imported over 9 years, the United States and the FRG exported in 7 months of last year, Japan exported as much for the year, and France exported the same amount in a year and a few weeks. Such is the level of our trade...

As we take into consideration these proportions we must point out that nearly $30 billion of our imports came from nonsocialist countries; this is over sevenfold the amount of such imports during the decade of the 1960's, which represents a very substantial change in the face of the Policy economy.

Enough for the general picture. It is time for a more precise calculation of our import-export interests with the nonsocialist world. I do not wish to bore you with an excess of details, therefore I have constructed a very simplifed composite table. It presents the combined balance for the years 1971 to 1979 divided into large groups of products:

Trade Turnovers with Nonsocialist Countries during the Years 1971 to 1979 in Millions of Dollars

	Import	Export	Balance
In general	49,635	34,719	-14,916
Machinery and equipment	16.096	8.441	- 7.655
Chemicals	7.714	3.095	- 4.619
Metallurgical products (with ores)	7.599	3.221	- 4.378
Agricultural-foodstuffs goods	10.171	6.847	- 3.324
Fuels and energy	2.804	7.946	+ 5.142
Lumber-paper products	1.007	1.441	+ 434
Products of light industry	2.537	2.617	+ 80
Remaining products	1.707	1.111	- 596

It is evident that of $50 billion of purchases from the West, investment supplies (machinery and equipment) represents less than one-third (32.4 percent). In reality "pure" investment imports were still significantly less--the total of $16.1 billion include private cars, electronical equipment, and, above all, various types of products for Polish industry manufactured under cooperation agreements. More than one-fifth of our entire imports were tied up in the foodstuffs economy. The enormous scale of imports of chemicals and metallurgical products in proportion to the total is also noteworthy.

Now let us look at the balance, pointing out the contractual "creditors" and "debtors" of foreign trade. Why they are contractual will immediately become clear. At first glance it appears that the only large "creditor" with a great surplus of foreign exchange revenues over outlays is the fuels and energy industry. Data concerning an appreciable surplus in the lumber-paper industry of exports over imports is rather shocking. It appears that as we give expression to the desire for an increase in paper imports to serve the needs of publishers and the press, we are not exactly in the position of a poor relative who must be supported in part. Light industry also shows a small surplus. The rest of the entire economy represents "debtors" who received incomparably more than they earned.

Following this line of reasoning, I would like to point out the relatively much smaller scale deficit than is generally believed in turnovers of agricultural-foodstuffs goods, and the enormous negative balance in chemicals and metallurgical products. In all honesty, it is these two groups above all which cause our indebtedness...

As I stipulated, however, this whole line of reasoning is imprecise in many ways and in essence does not present the real creditors and debtors. This is especially clear in the example of the apparently greatest "debtor," the electromachine industry. The fact is, what was exported--goods valued at $8.4 billion over the period 1971 to 1979--issued from the factories of the electromachine industry: shipyards, automobile plants, electronics factories, agricultural equipment factories, ball bearings plants, bicycle factories and the like. On the other hand, the imports of the products of the electromachine industry ($16.1 billion worth) went to all divisions and branches of the economy. Of the total sum of imports, only about $6 billion worth is machinery and equipment and cooperations elements for the electromachine industry.

In this way, the electromachine industry becomes a creditor, who exports much more than it imports and "makes money" on others. But I doubt whether even this concept is accurate. What about chemistry, which imports not only for itself, but also for agriculture (fertilizers, materials for plant protection), light industry (dyes), and much for the electromachine industry as well (rubber, plastics, paints and lacquers and the like)? The metallurgical industry in turn immediately delivers a good deal of its imports to the electromachine industry and the construction industry.

Thus, we can treat all of these categories of the balance only as a curiosity. On the other hand, what is important is the matter of the huge overall "hole" in the trade and payments balance of the country--and the general concern over filling this hole...

8536
CSO: 2600

WASILKOWSKI COMMENTS ON IMPORT-EXPORT SITUATION

Warsaw TRYBUNA LUDU in Polish 12 Aug 80 p 3

[Article by Andrzej Wasilkowski: "International Trade and Cooperation: In Order To Import, We Must Export."]

[Text] Among the important decisions made by the government and approved at the June session of the Polish Sejm is that an improvement in the balance of foreign trade turnover must be accomplished by means of increased export as well as reduced import. Under present conditions such a decision was urgently necessary, but it is obvious that in the long run our chances for development depend on intensifying our export offensive and not on limiting imports, which from many points of view is a painful remedy.

This idea is actually obvious, but only in a general way. In going from the general to the specific, the problem clearly becomes more complicated. First of all, in practice a favorable export climate does not exist everywhere. Furthermore, in rather wide circles of social opinion it appears that information about Polish exports is repeated with something like shock and in some extreme instances, even with a kind of atavistic sensitivity.

It turns out that even a simple thesis (of the 2+2=4 type) such as that if we want to import we must export encounters certain difficulties in practical acceptance. Besides, not everyone is willing to evaluate the foreign trade policy as a whole which may then be rationally analyzed on the basis of certain broader proportions.

For example, despite enormous difficulties in supplying the domestic market with various articles, foreign trade cannot, in advance and according to plan, as it were, stop exporting even those articles of which we are short, if possible transactions are to be highly profitable, if it involves keeping our place in the already-attained market, etc. Rational assessment should be of a more comprehensive character in this instance as well. For example, when it comes to the actual exports of food items, which are not so high, it is difficult not to take into account the fact that Poland is, unfortunately, a large importer of grain and feed. However, as I have said, not everyone is inclined to look at matters in just this way.

Another impediment to expansion of exports is the still-imperfect systems implementation in the economy, especially in the area of concrete and consistent support of export production. The government has recently become very energetically involved with this problem. Nevertheless, we must recognize that this is a fairly complicated matter, not only for reasons of its conceptual nature, but also because of a lack of reserves and limited investment capabilities.

In the meanwhile, one of the basic requirements for the actual export offensive is the practical capability for rapid large-scale expansion in the production of those goods which have gained acceptance on world markets and whose sale has proven to be profitable. Otherwise, potential clients will begin to buy elsewhere, and we will be left with only the satisfaction that we were able to interest a client in some small series or, as sometimes happens, several pieces of some machine tool.

This is also part of a larger problem, specifically, the well-known necessity of developing our export production as a specialized production to a much greater degree than we have done to date. What is necessary is to make products and services to an ever-greater extent export objects, specifically created and intended for export.

Of course, we have a variety of positive examples, headed by the shipbuilding and automotive industries, but that is still definitely not enough. Particularly due to the modernization efforts of the last decade, quite a few trades have the capability of taking the opportunity to fill out the list of our specializations.

It is one thing to sell on an occasional basis, so to speak, and something else again to enter the market as a steady partner who with time develops status and renown. Without underestimating the usefulness of such occasional transactions, especially under conditions of a strained balance of payments, we must look to the future in terms of the latter solution. Only then will foreign trade really become an agent of economic development, provide a basis for rational investment decisions, and at the same time create conditions for meeting import needs.

Cooperation within CEMA creates particularly favorable conditions, especially through access to the large Soviet market, for developing profitable areas of specialization. It is in precisely these conditions that the foundations for our development as an industrial nation were created, both from the point of view of a long-range, stable market perspective and from the point of view of supplying the economy with fuel, raw materials and goods.

Further expansion of this integrated relationship is doubtless an important factor favoring exports and specialization. However, the problem is to create a good export name in selected categories in other markets as well, in spite of the already significantly more difficult conditions.

Where capitalist countries are concerned, our hard-earned position as an industrial nation is not yet properly reflected in the structure of economic ties. Of course, this does not depend entirely on us. Nevertheless, much does depend on us, especially where the quality and up-to-date characteristics of our goods and our trade ingenuity and cooperation are concerned.

Our aspiration toward a pro-export economic position should also lead to another look at the problem of relations with developing nations. Very many of them are also constantly growing in the economic area of modern international life and we must consider that as a permanent trend. These are potentially enormous markets (and in the case of some nations, no longer only potentially). Furthermore, access to energy and raw materials is also involved in these relationships.

Aspiration in this direction requires a good establishment, that is, one offering quality, newness and reliability. It is easier to sell occasionally whatever is at hand than to create such specialization. But a more active entry onto this road is a national imperative.

A nation such as Poland cannot grow without constant expansion of international economic ties. Basically, the most important thing is not the selection, but rather the assurance of our exports' greatest possible social profit. A good establishment gives us this opportunity when the price is earned not only through the value of the materials and goods, but also through reliability and confidence, when trade takes on the characteristics of a large business, and when the buyer seeks out the salesmen and the manufacturer because he has already heard about them and knows that it is worth doing business with such a partner.

9461
CSO: 2600

NATIONAL HEALTH FUND ALLOCATES MONEY FOR HEALTH FACILI

Warsaw TRYBUNA LUDU in Polish 4 Aug 80 p 4

[Article by Bozena Jastrzebska]

> [Text] The National Fund for Protection of Health (NFOZ), called into being by the All-Polish Committee of the Front of National Unity (FJN) began its activity on 1 January 1973. Even in the first year of its existence the social remittances amounted to 2,334,000 zlotys. By the end of 1979 21.7 billion zlotys were paid to the account of the NFOZ. How and for what had they been spent? To what extent were they instrumental in improving the situation in health protection?

Taking into account the situation in the health service, the accumulated funds were used in the first place to expand the material base, in particular for the building of hospitals. The development of a network of units for basic health care: health centers in the country and polyclinics in the cities, as well as building homes for social care and creches, were also treated as urgent and important tasks. The necessity to modernize and expand many existing facilities and the need to supplement their outfitting with diagnostic and therapeutic equipment was also taken into consideration.

Matters of Primary Importance

It is not possible to satisfy all the needs of health protection in a short time. It has been necessary, therefore, to select from a long list those matters that would make it possible to improve the situation in the sorest points of the health care system! In the first place, investments, permitting the construction within the pale of the provinces (in accordance with a program worked out by the Ministry of Health) a possibly coherent general health care system, that is, to eliminate "blanks," to reinforce the network of basic health service and to base it solidly on specialized institutions and properly functioning hospitals.

Did these schemes work? Let us examine the results obtained.

So far, 10.5 billion zlotys have been spent from the funds of the NFOZ, including about 2.5 billion zlotys for the purchase of medical equipment and means of transport necessary for health service. Building activity of the health service financed by the NFOZ, which began in 1973, was as follows (as of the end of 1979):

there were built 310 new rural health centers, often provided with pharmacies and housing accommodations for the personnel, 64 polyclinics in the cities with 597 specialized rooms, and 41 creches for 2,895 children. There was an increase of 1,697 accommodations in social care homes and 4,772 hospital beds, the notion of "bed" including the overall outfit, apparatus and instrumentation. This includes two entirely newly built hospitals: the 30th Anniversary Hospital with 810 beds in Bydgoszcz, inaugurated on 28 June 1980, and the hospital in Gorlice with 353 beds. The other beds were installed in numerous new hospital annexes and wards.

The funds of the NFOZ were also used to purchase 400 x-ray apparatuses, which in the first place enriched regional institutions, and the necessary apparatus for the treatment of neoplastic diseases, for example, so-called accelerators for telegammatherapy, installations for intensive therapy, and diagnostic apparatus.

Facing the Needs

Why then does this considerable contribution to the development of the basic health service not bring about a perceptible improvement?

The needs in the field of the protection of health are always increasing. The coverage by universal and free health care of practically the entire population of the country, including farmers and their families and artisans, has sharpened and deepened the problems with which the health service is struggling. Let us add that it has enormous outstanding work from previous years, especially in the development of material substance, which, despite the acceleration of investments in the last decade, it has not been possible to eliminate completely.

Objectively speaking, however, the possibilities of the health service have improved, we have more beds in the hospitals, the network of basic health service units is denser, it is easier to see your doctor, and the share of the NFOZ in this is considerable.

Building and Modernization

In 1979, the NFOZ had financed, in entirety or in part, the building and expansion of 581 successive facilities of the health service and social care (with an estimated value of 23.4 billion zlotys) comprised in the investment plan of the Ministry of Health and approved by the National Socioeconomic Plan (NSPG). These are the so-called current investments. They include 30 new hospitals built anew (15,500 beds), 22 new hospital annexes with over 2,300 beds, and 28 modernized and overhauled annexes. Most of the facilities being built should be put into service by the end of the current year, according to Resolution No 89 of the Council of Ministers. Will it be? It is difficult to answer this question. Investments of the health service are difficult and complicated to build and as a rule they are being implemented with great delays.

Apart from the hospital construction which clearly predominates, there are also being built 260 rural health centers, 73 city polyclinics, 39 social care homes, 67 creches, and several dozen other facilities. The greatest investment being implemented from the funds of the NFOZ is the Center of Oncology in Warsaw and the Regional Center of Oncology in Gliwice, both coming into being within the framework of the governmental program of the fight against neoplasms.

Two and one half billion zlotys are being allocated from the NFOZ funds to subsidize so-called nonlimited investments. These are smaller facilities of an estimated value not exceeding 10 million zlotys, implemented by an economic system based in many cases on social work. At present about 500 such facilities (creches, social care homes, small health centers) are being built in the country. It is regrettable, however, that they are being built most often in old provinces and rarely in new ones which, after all, have fewer facilities of social and health care.

The National Committee of the NFOZ is spending each zloty most sparingly, for each zloty is of value. Social funds accumulated by the NFOZ will make it possible to accelerate the all-round development of the health care in the form that corresponds to our expectations.

1015
CSO: 2600

POSSIBILITIES OF SILICON USE IN POLISH INDUSTRY EXPLORED

Warsaw TRYBUNA LUDU in Polish 12 Aug 80 p 4

[Article by Krzysztof Bien: "Commonplace Material Made Valuable, Silicon Is All-Purpose Material"]

[Text] Silicones were used for the first time at the end of the war. During the past 30 years traditional plastics and rubbers have been eliminated in many existing applications. Silicones are now in the forefront because of their mechanical strength, heat resistance, nonflammability, resistance to oils and resistance to wear.

Using silicones in machine parts, to seal panels and windows in buildings, in the automobile industry and the shipbuilding industry, and as a coating insulating electrical cables is a step forward on the technological level that is comparable to the switch to transistors from vacuum tubes in receivers. Simply stated it is an entirely new standard.

Valuable Applications

The valuable properties of silicones are not the only things that affect their rapid use in the world. About a dozen or so years ago, the value of the physical characteristics to a great extent balanced the cost of silicones, which was at least 10 times higher than the cost of common organic plastics and synthetic rubbers.

The general increase in the cost of obtaining the latter, however, emboldened the striving for silicon plastics. Their manufacturing base is not increasingly expensive oil, but silicon, one of the most common elements of the earth's crust.

Silico-organic polymers are a group of diverse materials, liquid and solid, whose advantageous applications are increasing year after year. Let us point out some of them. Silicones in a fluid state, called oils, are excellent lubricants for machine parts. Their characteristics do not change during use, they do not become acidic and they are useable at elevated temperatures. They are used in automobile brakes (among others, in the United States), and they do not "boil over." In addition, they are nontoxic.

Liquid silico-organic polymers also serve as good hydraulic media. As so-called liquid springs, they are used more and more as motor vehicle bumpers and railroad car buffers. They are being used in automobile chasis and in space vehicles.

Silico-organic elastomers are no less practical. Durable and unusually strong gaskets are manufactured from them. The use of silicon seals contributes to the low heat losses in multistory residential buildings in the Western countries.

The automobile is the domain of the newest applications of silicon elastomers. The most durable gaskets, fittings and ducts are made of silico-organic elastomers. Also, cover plates for automobile bumpers aden collisions with obstacles at speeds up to 40 km/h.

At one time, the application of silicones in technology was something of an exception, used only when specifically required by the product. The revaluation of ideas concerning product functions, their durability and reliability, showed that silico-organic polymers also are essential for electronic systems, and their extensive applications bringing about significant economic benefits.

Economic Considerations

Without silicones, products are obsolete, worse and much less esteemed in the world then would appear from a simple comparison of the value of the silicones and the materials which the silicones replace.

Thus, it is not surprising that silicones are making such great advances. Two years ago, in 1978, world production of silico-organic plastics was about 280,000 tons. But during the next 5 years, production will reach 1 million tons.

This large increase in the use of silico-organic plastics is not only occurring abroad but also in our country. This is understandable because the application of silicones is and will be an essential condition for increasing the durability and reliability of many of our machine industry products, enabling them to compete better in foreign markets.

Right now, more extensive applications of silicones in Poland's machinery, construction, shipbuilding and electrical engineering industries is not possible because Poland does not produce these materials. This is a paradox because we are a country which has all the substances to be one of the world's largest producers of silico-organic compounds. We have almost all that is needed for their manufacture: silicon (quartz sand), coal (specifically coke), rock-salt (converted to chlorine) and methanol.

Since we do not have our own silicones, we import them from abroad (the second payments area) in the form of finished products and an intermediate product called chlorosilicane. Imports are significant, but the picture of their scale and the needs of the country include the fact that only fraction of them is recorded, in association with which the incurred foreign exchange outlays are minimized as marginal.

Increase of Imports

A significant portion of the silicones come into Poland as spare parts and components of imported equipment. In the same way, all statistics overlook deliveries to our foreign cooperating firms. For example, there is the heavy construction equipment industry and the shipbuilding (fittings) industry.

This is why there is so much divergence in determining the extent of domestic needs. "Ciech" calculates usage at 2,200 tons annually: specialists of the Institute of the Chemical Industry calculate usage at 3,800 tons, and about 7,000 tons for this year.

The value of imported silicones is not small. In 1978, a ton of the intermediate product methylchlorosilicate cost about $700. At that time, the price of oils [no amount indicated] exceeded $4,000, a ton of plastics and rubber--$20,000, including even special products--$30,000. All in all this costs us at least $15 million annually.

Inasmuch as we have the primary raw materials, it is all the more unjustified that we have to pay out money. Instead, we could earn a few good dollars. Whatever problems there are could probably be overcome. From the viewpoint of technology, the only problem we would have would be to combine chlorine with methanol and silicon. This must occur in special ovens that are not available in Poland. But they can be purchased from the USSR as well as in the West in exchange for future deliveries of silicones. In any case, a large and expensive installation is not necessary because production would be 20,000 to 40,000 tons annually.

Converting the intermediate product into various silicon forms should not present any problems because the technology is known to Polish chemists, and what is more important, these technologies are used on a semitechnical scale. In light of all these considerations, it seems that the problem of producing silicones in Poland is ripe for a solution, at least our needs and capability needs to be reviewed again. I say "again" because this is not a new problem for us. Twenty years ago the Economic Committee of the Council of Ministers even passed a resolution on this matter. Its only result to date has been experimental production by the Silicon Experimental Plant and by the Sarzyna Chemical Works, which today, in view of the rapid expansion in the world of this new area of the chemical industry, it is difficult to acknowledge as sufficient.

11899
CSO: 2600

[illegible] KOSOVO USE OF WORLD BANK CREDITS

Frankfurt/Main FRANKFURTER ALLGEMEINE in German 18 Nov 80 p 12

[Article datelined [illegible], November, by Viktor Meier: "The Two Sides of [illegible] — World Bank Projects in Yugoslavia"]

[Text] In the backward Yugoslav province of Kosovo inhabited by Albanians, there are [illegible] agricultural projects involving soil improvement and drainage that were financed with foreign exchange credits from the World Bank in Washington. These projects are readily shown off to foreign guests; it is then demonstrated how well "cooperation" with the state agricultural combines works and how well these combines organize the marketing of their products. Two kilometers away, private farmers are having to dump their milk, throw away their fruit and eat up the meat from their own slaughter animals because there is no purchasing system for agricultural products. The Kosovo political leaders responsible for these circumstances are acting consistently — from their point of view — when they forbid any contact with unescorted foreign journalists who come to Kosovo and have them shadowed by the police, and when they have large signs posted on the highways which prohibit "foreign [illegible]" from entering certain "inhabited localities."

World Bank credits — Yugoslavia has thus far availed itself of $2.4 billion in such credits — are consequential in more ways than one. International experts work on the projects, a task most probably beyond the ken of the local administration. The so-called domestic share, which is a condition and which may be paid in a country's own currency, is also incorporated right into the planning. The result is a "[illegible] package," with the political leadership having to do very little. Since the World Bank is [illegible] on the lookout for projects, it is relatively easy for the leadership [illegible] to attract the Bank's interest. Once they have gained [illegible], they can then persuade Yugoslav banks, the fund for underdeveloped [illegible] not to let themselves be outstripped by the [illegible] money either for the domestic share or for other projects. [illegible] used to demonstrate the "superiority of the socialist [illegible] it were necessary to complete the project once the [illegible] and tired. The newspaper POLITIKA reports [illegible] plant and irrigation system for Kosovo in the upper Ibar Valley, which [illegible] by the World Bank, is unable to operate as planned [illegible] were not constructed or not constructed properly.

The [illegible] of such projects by the World Bank is [illegible]. [illegible] in foreign exchange, but as a rule it does not bring [illegible] [illegible] any greater export capacity — especially with regard to [illegible] [illegible] — that would [illegible] bring in foreign exchange revenues. Apart from [illegible] [illegible] of [illegible] [illegible], this applies [illegible] to the projects that serve to [illegible] the infrastructure. The Burmese leaders can afford [illegible] [illegible] the foreign exchange credits [illegible] to be paid back by the [illegible] [illegible], [illegible]. [illegible], however, [illegible] foreign debt [illegible] of more than $3 billion, while the country's export capacity has declined rather than increased.

[illegible] export [illegible] from international credits [illegible] [illegible] years, [illegible] — one can still ask whether [illegible] [illegible] and [illegible] [illegible] if the already existing [illegible] [illegible] have [illegible] either [illegible] — in other words, if the [illegible] [illegible] [illegible] intentionally or through negligence [illegible] [illegible] their [illegible].

[illegible] [illegible] officials are seeing more and more frequently [illegible] with [illegible] and willingness [illegible] that project [illegible] [illegible] with [illegible] funds, [illegible] whether [illegible] [illegible]. [illegible], such questioning [illegible] an additional [illegible] billion in World Bank credits [illegible] for the [illegible] [illegible] with similar credits from other institutions. The credits for these [illegible] are earmarked for very specific purposes.

[illegible] and [illegible] of [illegible] and [illegible] credit standing abroad [illegible] [illegible] repays the credits promptly, [illegible]. [illegible] [illegible] the [illegible] of [illegible] exports. The [illegible] right now in their applications for [illegible]. [illegible] is also always ready to [illegible] data [illegible]. [illegible] reports [illegible] are indeed correct, but [illegible] [illegible] standpoint, [illegible] — as the [illegible] — [illegible] in part [illegible] of the [illegible] [illegible] the requirements of the national [illegible] glossing over the lack of productivity and [illegible] way [illegible] political [illegible].

WORKERS' COMPLAINTS TO TRADE UNIONS SURVEYED

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 1-3 Nov 80 p 11

[Article by D. Prdar: "A Reaction Usually Justified"]

[Text] The number of grievances and petitions which workers send to the Council of the Federation of Yugoslav Trade Unions seeking assistance with their own financial and social problems or merely giving indication of deviations of self-management relations is not decreasing. This observation was recently made by the presidium of the council of this sociopolitical organization which has the most direct ties to worker interest. Though to some extent it is surprising that the number of worker grievances and petitions is so great, since the self-management rights of the workers are protected most directly by courts of associated labor and public defenders of self-management law, the people in the trade unions nevertheless say: the grievances and petitions are an expression of the readiness of the workers to react to usurpation, but also of confidence in the trade unions and in its readiness to help the working people when there is good reason.

What do the workers seeking help from the Council of the Federation of Trade Unions usually complain of?

More Effective Reaction

According to a report of the Presidium of the SSJ [Federation of Yugoslav Trade Unions] Council the workers usually complain of and refer to problems which profoundly affect their financial and social security. This pertains above all to problems of hiring and exercising the right to work, personal incomes, the distribution of housing units, obtaining medical care, and also medical, old-age and disability insurance. While complaining of violations of personal rights, the workers at the same time point to irregularities and the disrupted self-management relations which bring them about. In that context the workers often call upon the SSJ Council to stand in the way of cases of group-ownership behavior and to protect public property. They also call for more effective response and for correction of the causes of such cases.

Most of the petitions and grievances fall in the domain of employment relations, hiring particularly. The council finds it constructive that the workers are expressing a very high awareness of the objective difficulties with hiring, but they are also aware of the undesirability of arbitrary action, evasion of competition, various forms of protectionism and string-pulling and other irregularities that occur in this area.

The petitions and grievances express very vividly the problems related to distribution of funds for personal incomes. Usually the workers are rightly upset that proper criteria have not been established for income distribution. They point to the well-known fact that the results of work are not measured in all tasks and jobs. They also say that almost no standards are established for jobs outside of production. They also rightly point to the modest influence and surveillance they exercise over work done on commission and supplemental work by employees. They often say that in a large number of cases private, group, family and individual interests are involved in this kind of work.

Though the number of grievances related to stoppage of personal income is growing all the time, a followup has established that usually they are unjustified and have been sent in by workers more interested in their rights than in their obligations. At the same time the grievances related to the exercise of rights to health care and insurance, whose number is decreasing all the time, indicate very important problems involved in exercising those rights. By and large the workers complain of two sets of prices for health care services, rejection of applications for treatment in spas and health resorts, the assigned degree of disability, disagreement with the findings of specialists and medical commissions, and the adjudicated amount of damages following work accidents. And in this connection they also complain of lengthy court cases.

More Attention--Fewer Grievances

A sensitivity to injustice and a readiness to defend authentic principles of self-management are also expressed in the grievances and petitions concerning housing affairs. The grievances indicate that every deformation or injustice is deeply resented by the workers, which is altogether understandable, especially when we think of all the limitations that are involved in the satisfaction of housing needs. In the first 9 months of this year the number of workers appealing to the council to correct various irregularities in the distribution of housing was twice what it was last year. By checking the allegations of the workers the trade unions discovered that in the cases where problems have occurred regulations on distribution of housing have usually not been brought into conformity with social compacts, and some have not even been brought into conformity with the Law on Associated Labor. Frequently there has also been a departure from the waiting list, and there are cases when worker assemblies and workers' councils adopt individual decisions which violate the criteria which have been established and the obligations they have assumed.

An examination of these and other petitions and grievances of workers sent in to the SSJ Council makes it clear, the report states, that direct self-management rights are usually violated in basic organizations of associated labor or work communities. The feature which all the grievances and petitions have in common relates to the fact that they come from places with underdeveloped self-management, places where there is a wide gap between principles and practice, as a rule compounded by a passive attitude on the part of the basic trade union organization and other sociopolitical organizations in resolving the problems that arise.

However, even though the worker grievances and petitions are obviously justified, those who act contrary to self-management are usually not made accountable. Not even when they are obviously acting spitefully toward the worker and are not carrying out court decisions which have become final. They therefore say in the trade unions that a more vigorous effort is needed on the part of basic trade union organizations in establishing that kind of responsibility, but also in finding the right way to reduce the number of errors and abuses of self-management rights. And the right way is, of course, prevention.

[illegible] Commission

In response to the importance and complexity of the problems raised by the worker grievances, the Presidium of the Council of the Federation of Yugoslav Trade Unions recently formed the Commission of the Council for Petitions and Grievances as its own working body.

This commission's principal task will be to examine the petitions and grievances which come into the council and to monitor and analyze the issues raised in the grievances and petitions as well as the reasons that led to them.

It is also the commission's duty to analyze to what extent the issues raised in the grievances and petitions are affecting the development of self-management relations and exercise of the self-management rights of the workers in organizations of associated labor and in the same connection the activity of trade union organizations and organs, the bodies of worker management, self-management workers' control commissions, disciplinary commissions, professional management and other bodies concerning the issues raised in the grievances.

[illegible] Mostly From Skilled Workers

During the first 9 months of this year the Council of the Federation of Yugoslav Trade Unions received a total of 1,997 grievances and petitions from workers. The largest number came from Serbia--663, while Bosnia-Herzegovina accounted for [illegible], Croatia 153, Vojvodina 137, Kosovo [illegible], Macedonia [illegible], Slovenia [illegible] and Montenegro 33.

Among the 748 grievances for which the petitioners' qualifications are known, the largest group (359) was that of skilled workers and workers with specialized secondary training. Second place was taken by semiskilled workers and workers with elementary training (183), the next group was highly skilled workers and workers with junior postsecondary training (100), then unskilled workers (89), and finally only 17 workers with senior postsecondary specialized training.

It is interesting that there are a large number of grievances from women--377, and also that 41 group grievances were filed.

1045
CSO: 2800

YUGOSLAVIA

EMPLOYMENT PLANS IN SLOVENIA

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 6 Nov 80 p 8

[Article by Ljubomir Krasojevic: "Slower Growth in the Coming Period"]

[Text] The new job rate in the coming medium-term plan in Slovenia is being placed in very close relation to the tighter economic conditions and stabilization trends, which necessitate efficient employment of manpower and thereby a faster growth of income per employee as well. Taking these requirements as its points of departure, along with the fact that sources of new manpower are fairly limited in this republic, the draft of the social plan for Slovenia's development up to the year 1985 calls for employment in the economy and public services to increase considerably more slowly than up to now.

That is, as set forth in this document, economic possibilities allow for employment in associated labor to increase at an annual average of 2 percent over the next 5 years. In the economy employment would grow at a rate of 1.8 percent, while in the public services it would grow at a rate of about 2.2 percent, and in public organizations and communities it would increase at a maximum annual average of 1.9 percent. Employment in the underdeveloped regions would increase at a somewhat higher rate, while in the more advanced regions the rate would be below the established average for the republic as a whole.

On the basis of these projections it is estimated that in the coming period it will be possible to open up 80,000 new jobs in the republic, one-fifth of which would be in noneconomic activities, above all in the public services. There are also real prospects for another 7,000 new jobs in the private sector of self-employment. By the end of the next medium-term period, according to the plan, there would be a total of 880,000 employees in the socialized and private sectors in Slovenia. Thus the share of the labor force in the total population would be held at its present level of about 41 percent.

Obligations of Associated Labor

The conceptions of development provide that young trained personnel will be given preference in coming years. However, it is known even now that difficulties will arise because of discrepancies between the training of the new personnel graduating from school and the particular occupations needed by associated labor. In the first years of the medium-term plan the rate of employment in the republic, it is now estimated, will range between 2.5 and 3 percent.

Though the republic's medium-term development plan calls for a considerably slower growth of employment than has been the case up to now, it is felt that the low rates which have been anticipated put considerable obligations on associated labor. That is, self-mangement accords which have been signed by all the opstinas in the republic oblige organizations of associated labor to cover the total social costs of each new job so as to provide the so-called minimum standard of living and working conditions.

Also the restructuring of the economy, which is one of the strategic lines of the republic's development, necessitates a higher level of knowledge and professional competence on the part of workers, and that also means a higher share of the respective skills in the total labor force. The changes envisaged in the pattern of operation, the introduction of automation into production processes, and then improved organization of work and reduction of the share of nonproduction personnel will necessitate effective resolution of problems of surplus manpower in a number of organizations of associated labor. Such work organizations, and it is believed that their number is not small, will even now have to be prepared for timely adoption of programs to provide personnel with job training and schooling to acquire new skills, which they would carry out in collaboration with opstina employment security communities.

Increasing optimality in hiring is becoming one of the essential prerequisites for stabilization, for more efficient economic activity and thereby for the rise of labor productivity in Slovenia. In the current medium-term period the new job rate has been considerably higher than the projection. That is, the most recent surveys show that employment in Slovenia stayed within the limits of the projection only in 1976, the first year of the current medium-term plan, when the growth was 2.9 percent. The very next year the growth of employment was 3.1 percent, in 1978 it was 4.1 percent, and then last year this percentage dropped to 3.3 percent. On that basis it has been computed that employment has grown at an average annual rate of 3.5 percent so far in the current medium-term period.

Productivity Below the Projection

It is true, and current analyses show it, that under the impact of the stabilization measures which have been adopted, hiring since the end of last year has kept to a considerably more moderate rate. Though the slower stasis of employment is characteristic of all organizations of associated labor in the economy, so that the growth this year will be about 0.5 percent by all appearances, it is still particularly pronounced in organizations of associated labor in the sector of physical production, where 57.3 percent of the economy's labor force is employed. That is, since last December there has been hardly any change in the size of the labor force in this domain of associated labor.

Though the stabilization measures will undoubtedly have the effect that the results expected in 1980 will bring the markedly dynamic trend of employment in the first 4 years into the somewhat more realistic limits of the original projections, this is one of a number of other reasons for the slower growth of productivity in this republic.

The level of growth of productivity we are talking about is best illustrated by the following comparative figures. The most recent analyses of fulfillment of the current medium-term plan show that the share of the rise of productivity in augmenting the total output of associated labor has been 42 percent over the last 4 years, which is 15 percent less than was planned. In the industrial sector, however, the contribution of higher productivity to the total growth of output was 63 percent, or 3 percent less than was envisaged. If these estimates are borne out for this year, in the context of a quite appreciable slowdown in the growth of output, productivity could rise as much as 2 percent. Its share in the growth of the social product would then be 50 percent, which is nevertheless 7 percent less than was planned.

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NEED TO OVERCOME TECHNOLOGICAL LAG DISCUSSED

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[Text] The fact that during the eight and a half months of this year we imported equipment in the amount of 300 to 400 million dollars more than originally planned, when considered with all the rest, points also to the high degree of technological dependence of our country. Regardless of the fact that during this year goods were imported which were contracted for in the past years, there is evidence of fear that a rigorous policy of stabilization could bring future production based largely on domestic equipment into an inferior position. The realization that our industry is falling behind technologically is not new.

A complex, but consistent development policy must be built into the ever stricter efforts toward stabilization. Such a policy would make it possible, although not overnight, to bridge the technological gap that exists vis-a-vis the industrially developed economies which confront our industry in the indivisible arena of the international market.

The total social productivity of a particular product can be reliably measured in relation to the competition on the market, as the weaknesses and omissions of development policy in the past are shown more clearly in relation to the outside world than in relation to domestic standards. The most important thing now is not to reduce stabilization to merely restrictive and inhibitory measures. Stabilization at the zero growth level, that is to say, at the stagnation level, certainly would not be the kind of stabilization we need.

Lagging in production of equipment is a sign of technological lay in total production, as the production of equipment is one of the few production sectors which has a distinct multiplying influence on all social productivity.

The technological gap cannot be bridged just by creating an enviable scientific research potential expressed in terms of personnel, numerous institutions, and important results in the field of basic and theoretical research. The ultimate purpose of basic and applied academic or strictly laboratory research is developmental research and the development of new products and technologies, which is indeed very expensive. Investments in the development of new products and technologies as well as in various research efforts needed to place the new products on the market involve expenditures for complicated experiments which require detailed simulation of conditions of real production, the development of pilot installations and testing, market research and the launching of the new product. In industrially developed countries with market economies such expenditures amount to several hundreds of millions, as much as the cost of a new model car. Sometimes these exceed even a billion dollars, as in the case of a new generation of computers.

The cost of product development and creation of new technologies are incomparably greater than the costs required for the so-called pure sciences, that is, for basic and applied research. That was also certainly one of the reasons that in our country pure science developed first and produced certain knowledge, but it was not possible to find ways in which this knowledge could be applied to improve production. Science and economy developed on two separate tracks. The institutes received the echo of advanced science from abroad, while the "ready to use" technical know-how was fed into the production apparatus in the form of protected industrial property of the developed countries, and in the form of contracts, filled with restrictive clauses, which fettered the already limited possibilities of domestic producers in their efforts to enter the market.

Vegetating Under The Patronage Of The State

It is understood that the bridges between scientific research and an economy oriented toward business production cannot be built quickly. The success of creating such ties depends, above all, on the existing capability of economic organizations, which, to a considerable degree, are the product of our orientation now. On the other hand, the consequences of a former dispersion of scientific research efforts cannot be reversed with a single move. The failure to concentrate resources on certain major technological break-throughs has left its mark on the scientific research organizations. Equipment and research work in institutes have for some time been out-dated. It has become very clear that generally the institute is not, or at least is not any more, a place that attracts young persons. In this respect the institute significantly lags behind the faculty of an university, which is more attractive mainly because of the opportunities for earnings from several sources. Production organizations are not successful in attracting young and ambitious experts mainly because they are not successful in offering them sufficiently challenging programs, which would provide the young with a long-term perspective for professional growth. As for the equipment, the limited opportunities at scientific or advanced institutes is now complicated even more by the fact that sometimes it is more difficult to obtain the right to import than it is the means to import, even though it is fully clear that it is better to import the equipment for a research laboratory now, than to import forever production equipment.

What OECD Experts Had To Say

While preparing to put together a study about a scientific policy for our country, exactly seven years ago, OECD experts came up with a series of observations which are still very much up-to-date. We quote:

'There is a tendency in Yugoslavia for every research organization to go under the name of an institute, which in other countries indicates a certain degree of independence or at least separateness. For example, in many countries institutes at universitites would not be listed separately and their work would be regarded as an organic element of the work of every section or faculty of a university.

"The basic problem is not in conducting its own research instead of purchasing results, but in finding the most practical and most suitable solution to the problem which is being investigated. In this respect the licensing requirements should be carefully examined. The licenses should be the starting point for development toward greater independence, not a means for hindering or slowing down the development on one's own technological level."

"Economic planning and formulation of research needs represent two sides of the same medal for an individual enterprise. A clear formulation of needs represents the best challenge to research institutes, and the assigned tasks should not be either too easy or too difficult....

"Integration and cooperation cannot be established through laws or moralizing, but through creating situations in which all partners benefit from this cooperation."

The Door Of Technological Cooperation

According to the authors of the study "Science in Yugoslavia (Znanost u Jugoslaviji)," which was prepared by the Center for Social Research of the University of Zagreb, on request of the Yugoslav Commission for Cooperation with UNESCO, the following contracts were concluded to the end of last year:

- long-term production cooperation		296
- procurement of material rights to technology		790
- investment in joint operation		195
	Total	1,429

75-78 percent of the contracts was carried out.

It has been steadily maintained up to now that science can somehow exist without the support of economy. A stable public (that is to say state) support made it possible for science to survive, regardless of the fact that the financial base of this patronage was getting to be thin. Understandably, the shift to the concept of exchange of labor did not automatically create mechanisms for the real linking of the existing science-research potential and economic organizations. The free exchange of labor means the transfer of available resources through compulsory contributions, without making any differentiation as to the type or purpose of scientific research, the direct exchange of labor, however, means retail buying and selling of scientific products. In neither case is the exchange based on the real interest of business organizations and independent institutes, so there is inevitably an outside guarantor of this linking of interests. Such an outside guarantor appears either in the form of the "hard" state (socio-political community), or in the form of the "soft" state (an institutionalized SIZ [self-management interest community], based on a para-fiscal concentration of financial means.

Conclusion

The documents of the Eleventh Congress of the League of Communists of Yugoslavia (SKJ) discuss the developmental goals of research and state the following:

"By combining labor and means available to organizations of associated labor engaged in actual production, and the research organizations, we should create conditions for more successful planning of technological development and realization of significant research projects in order to improve existing technology and develop new technology.

"The import of technology should be constantly tied to our own research work. Selection of technology to be imported should be done rationally to enable us to accept and use it in the best possible way, and to further develop and advance it ourselves. At the same time we should make efforts toward greater export of our own technological accomplishments. There should also be greater determination toward creating more favorable conditions which would stimulate engagement of organizations of associated labor in the field of research and technology."

Results

How far the developed countries have moved ahead of us can be seen from the table, which shows the co-efficient of per-capita social production and investments in scientific research, per capita, and per researcher (Yugoslavia-1) in 1975 (from the study, "Science in Yugoslavia," published in 1980).

Country	Public Production	Investments in per capita	Investments per researcher
USA	3.8	11.4	4.0
Sweden	3.2	6.7	3.1
Switzerland	3.1	8.1	2.8
France	2.7	6.0	4.1
FR Germany	2.6	7.8	4.1
DR Germany	1.9	8.0	4.1
Austria	1.9	2.8	4.7
Czechoslovakia	1.7	6.4	1.8
Italy	1.5	1.8	-
USSR	1.5	6.7	1.2
Hungary	1.3	2.8	1.1
Yugoslavia	1.0	1.0	1.0

Investments In Science

It is not possible to give a precise answer to the question of how much is being invested in science research because a suitable methodology has not been developed. An estimate can be obtained by relating the revenue of the scientific-research and development organizations to national income (percent).

Year	Revenue (%) Gross National Income
1965	1.0
1970	1.4
1974	1.2
1975	1.3

1976	1.3
1977	1.5
1978	1.5

(The table is from the study, "Science in Yugoslavia.")

Scientific Output

The number of reported inventions indicates inventiveness but also the use of knowledge and research. The table shows the number of reported inventions where application for patent rights (only domestic applicants) was made during the past ten years.

Year	Individuals	OUR	Applicants Institutes	Total
1970	708	140	35	883
1973	767	124	37	928
1975	1,063	132	56	1,251
1976	1,132	162	45	1,339
1977	987	175	31	1,193
1978	1,003	129	34	1,166
1979	958	191	40	1,189

In the last few years the number of patents issued dropped compared with the beginning of the past decade. For example, in 1971, out of 922 reported inventions, 147 (16%) were registered, and in 1978, out of 1,166 reported, only 50 inventions (4%) obtained patent rights.

Huge funds are needed for the development of new products or new technological processes, along with the very high risk that the immediate return may not nearly match the investment. If we accept the fact that neither risk nor investment can be avoided, because production without technological progress cannot achieve long-term competitiveness on the market, a question arises concerning the selection of correct ways to concentrate resources and consolidate efforts. The model which is developing among self-management interest communities in the scientific field is based on a fairly complex and long-term process of collective selection of projects in which the resources allocated according to law are to be invested. The selection starts from a wide variety of proposals, which in the beginning reflect mainly the needs of the existing institutional potential. By condensing and uniting related projects, on one hand, and by eliminating, on the other, the selection process flows toward a desirable concensus of all on both sides (the providers and the users of services) with regard to a "decent" number of relatively large research projects.

There is no doubt that the annual and medium-term programming of research, to be financed through the SIZ, is the best way to use the resources collected through contributions. Similarly, one should not question the usefulness of collecting and targeting these resources, especially having in mind their initial effect and ability to attract investment of other resources by interested users of scientific work.

Technological Breakthrough Can Be Made Only By the Economy Under Market Forces

Another question is whether all this together is sufficient to secure any serious technological-developmental break-throughs in specific directions. It is clear today that technological progress through scientific research is a matter for economic organizations, not for science-research organizations. When we talk about the need for science to show its effect in income, it is easy to get confused about whose income is in question. It is understandable that in this respect the science institute's income according to its account books is incomparably less important than the increase in the economy's production and market results. Income from science is by its nature joint income.

Of crucial importance are the interest and ability of economic units to expand and in the long term adapt themselves to the development of new products and technologies, using at the same time the results of scientific research. [The reason this does not happen is that] our economy is not composed of very large organizations; but if there were sufficient interest, economic units could develop ties among themselves. The question is, therefore, why are they not jointly participating in strategic efforts in the developmental-technical field. If we ignore the fact that they have not been forced to do so, the focus is then on the fact that the market is not sufficiently developed, and economic units are not motivated to adjust their long-term development policy toward the market, and having in mind above all an increase of their own absolute competitiveness.

The question that follows is how to create conditions and real interest in economic organizations to move more rapidly toward increasing their own technical and technological competitiveness. This can be partially achieved in a restrictive way, by reducing the intensity and frequency of administrative intervening in economic life. According to the nature of things, the economy, as well as economic organizations, exist to enlarge their own activities with the help of their own capital accumulation. A slow down and stagnation of accumulation necessarily leads to stagnation of technological development. Freer action of economic laws, together with a well-thought-out policy which respects these laws and the market, and does not try to suspend them, makes it possible for economically healthy economic organizations to progress along the technological path on the basis of their innovativeness. There is a noticeable tendency among the large corporations in the West to invest money in short-term business ventures which offer more modest but safe profits. The newly established, smaller companies, on the other hand, show greater developmental agressiveness and readiness to enter into longer term ventures with a promise of greater profit but with greater risk.

The second set of conditions for technological development requires a reasoned and conscious decision with regard to the directions in which progress is desired. The prerequisite is to avoid having too many such directions and unrealistically ambitious ones. The better the agreed upon priorities are adapted to the actual possibilities, the more effective will be the policy of economic or other incentives for development in selected fields. Only such a policy can establish a strong bridge across the technological abyss, not a wobbly span of illusions and deceptions.

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